PAPER TRADE JOURNAL

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Vol. CIII JULY 16, 1936 No. 3

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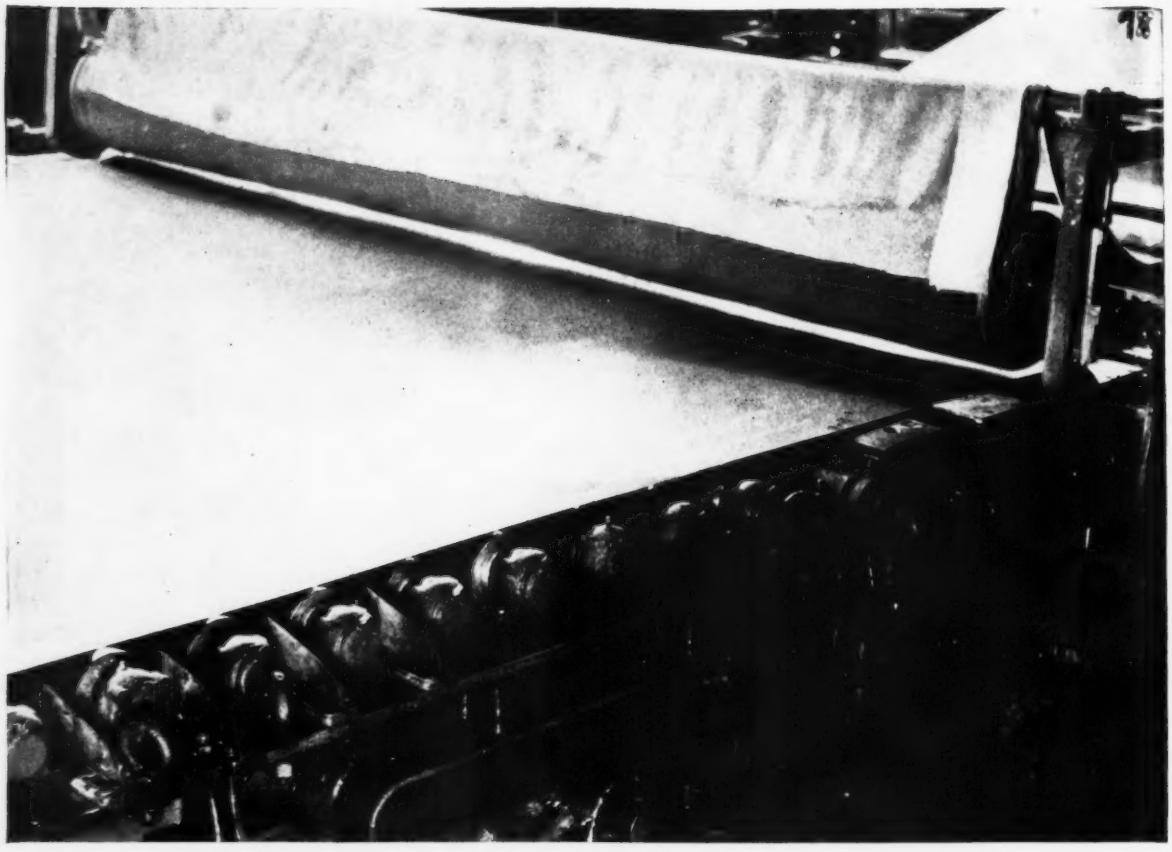

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ESTABLISHED 1872

SIXTY-FIFTH YEAR

THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY AND THE PIONEER PUBLICATION IN ITS FIELD

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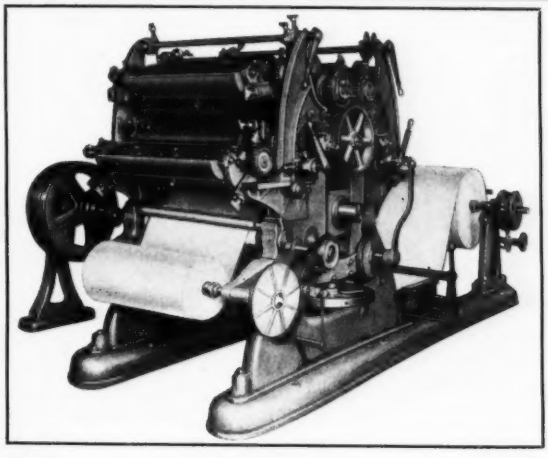

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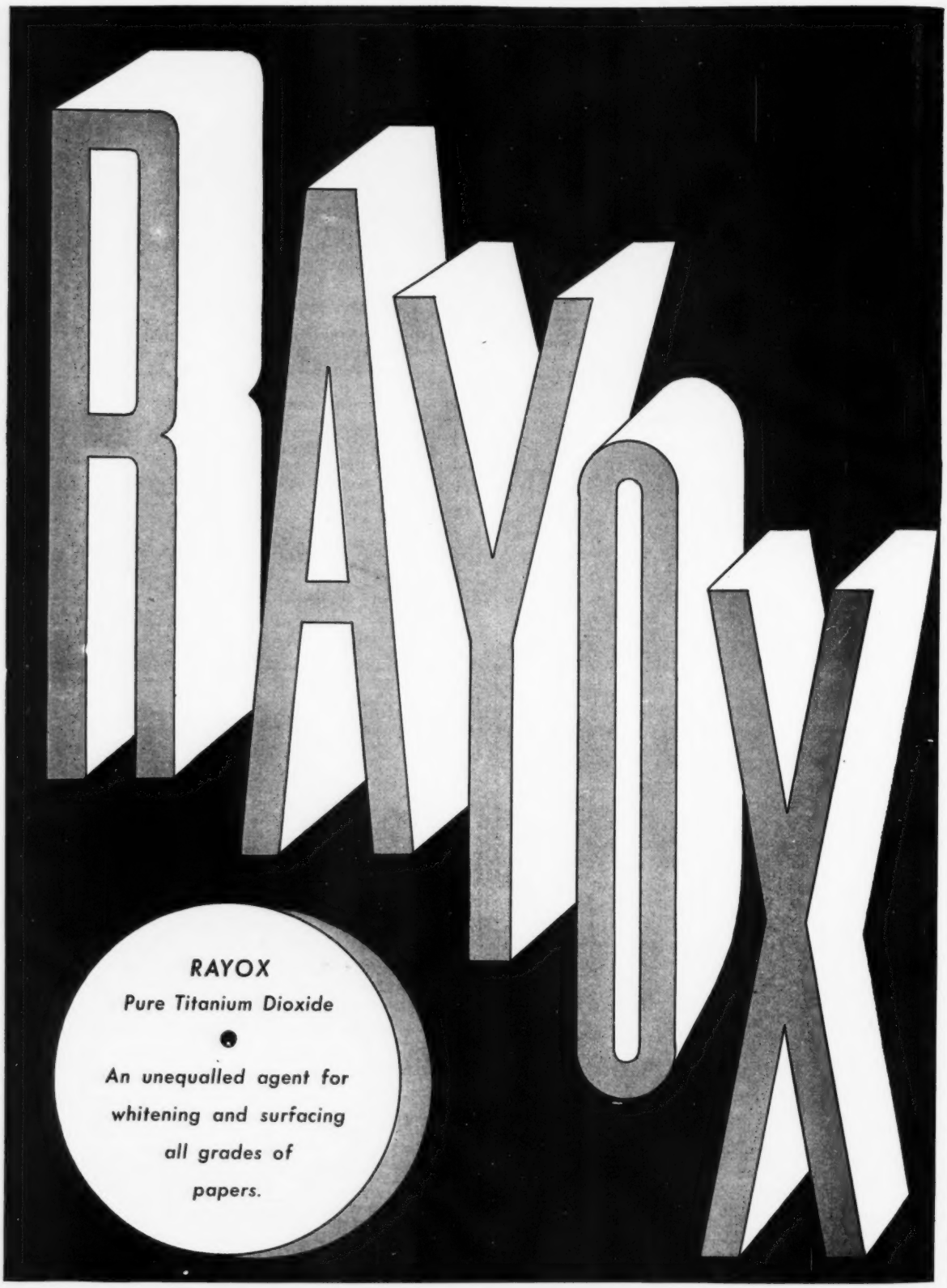

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Canadian Newsprint Paper Situation Improves

Better Sentiment Reflected In Montreal Stock Market—Earnings of Price Bros. & Co., Leading Exporters of Newsprint to Foreign Countries, to Benefit From Recently Announced Increased Prices In the Overseas Market

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., July 13, 1936—The improving situation in respect to newsprint is continuing to be reflected in the stock market here, strength and activity in newsprint issues being the feature of the local bond market. Gains ranged up to 8 points before mild realizing brought a reaction of a point or so. The recent announcement of an increased price for Canadian newsprint in the overseas market, that is in Central and South America and in Australia and New Zealand, has two interpretations: First, it confirms the optimism pervading in newsprint circles, towards price increase in the domestic market for 1937; and second, the better price should have a beneficial effect on the earnings of Price Bros. & Co., who are the leading newsprint exporters in the Dominion to the foreign markets.

With the election campaign getting underway in the United States, the consumption of newsprint in that leading market for the Canadian product is expected to increase as the year progresses, and there is no doubt in the minds of observers that 1936 will be a record year for production and consumption on this continent.

English Newsprint Companies Merged

From London comes the cabled announcement that two of the leading newsprint manufacturing firms in England have joined forces. Bowater's Paper Mills, Ltd., have purchased a controlling interest in Edward Lloyd, Ltd., which has a total issued share capital of three million pounds sterling. The move is expected to result in important economies, particularly in distribution and transportation costs.

Bowater's Paper Mills, Ltd., recently sponsored a plan of reorganization for Price Brothers and Co., Ltd., Quebec newsprint firm operating in bankruptcy, but the plan, like others, failed to secure approval of all classes of Price security holders and creditors.

Seeking European Market for Pulpwood

From St., John, N. B., it is reported that New Brunswick will make an endeavor to establish markets in continental Europe for its pulpwood, and trial shipments are to be made to see if a business can be worked up with such countries as Germany and Holland. In order to promote the venture, the New Brunswick Lumber Export Company, Ltd. has been formed at Fredericton, N. B. with E. C. Atkinson, of Fredericton, president, and G. Willard Kitchen, Mayor of Fredericton, vice-president and treasurer. The company proposes to send two test shipments of Eastern Canadian pulpwood totalling some 6,000 cords, this summer. This decision was taken following a visit to the province of a German and Dutch pulpwood importer.

One of the test cargoes will consist of some 3,000 cords, and is now being loaded at Newcastle, N. B., and the second shipment is to follow shortly. For the past two or three years Nova Scotia has been exporting pulpwood to continental Europe and there has also, of late date, been some development along this line on the Gaspe peninsula. The movement, in connection with the industry in New Brunswick, is new and, if successful, will be a material help to lumbering in this province.

Donnacona Paper Co. Reorganization

Supplementary letters patent have been issued to Donnacona Paper Company, Ltd., confirming the plan of reorganization recently approved at a shareholders' meeting. The substance of the reorganization is to increase the capital stock by 131,680 Class "A" shares, which are to be distributed to bondholders at the rate of two shares for each $100 principal amount of bonds held. Respective privileges and preferences of the Class "A" and "B" will be altered so that the former will continue to carry exclusive voting rights until December 31, 1941, after which date the two classes will become merged into one and all shareholders of the company shall have one vote for each share held.

Holders of the 5½ per cent first mortgage gold bonds are also notified that an extension has been made in the maturity date of the bonds from February 1, 1948, to February 1, 1956. Arrears of interest will be cancelled by the issuance of the additional Class "A" shares. The company will be relieved of the obligation to pay 5½ per cent interest on the bonds but will pay 3 per cent from February 1, 1936, to February 1, 1937; 4 per cent from February 1, 1937, to February 1, 1938, and at the rate of 4½ per cent from February 1, 1938, to maturity.

Container's Net Earnings Increase Substantially

President W. P. Paepcke Reports Dollar Volume of Business in First Six Months of Year Increased 4 Per Cent and Tonnage Volume 11 Per Cent—Units Booked Thus Far in July Are 22 Per Cent Ahead of Last Year

CHICAGO, Ill., July 13, 1936—A substantial increase in the net earnings of Container Corporation of America was noted today when the Corporation's quarterly report was made public by President Walter P. Paepcke. Earnings for three months, six months and the year, as compared with the same periods last year, are:

	1936	Per Share	1935	Per Share
3 months ending June 30.....	$302,541.91	.46	$224,335.81	.34
6 months ending June 30.....	481,845.09	.74	432,145.50	.66
12 months ending June 30.....	1,287,708.86	1.97	945,998.12	1.45

In each instance earnings are, after all charges, including adequate reserve for year end adjustment and after reserve of 15 per cent for normal federal income tax; no attempt has been made to estimate any possible surtax for 1936.

As of June 30, net working capital, after provision for dividend which has been declared and is possible August 15, amounted to $3,849,696,00 compared with $3,628,000 December 31, 1935.

During the half year, all outstanding purchase money obligations were prepaid in the amount of $232,860.00 and outstanding bonds and debentures were decreased by $182,500. There was added to building, machinery and equipment $255,084.00.

Compared with the first 6 months of 1935, dollar volume of business done increased 4 per cent and tonnage volume increased 11 per cent. Units booked thus far in July are 22 per cent ahead of the same period a year ago, while dollar bookings are 25 per cent ahead.

A year ago price levels were on a downward trend, compared to present upward trend of prices. Volume has been holding up contra-seasonally well.

Paper Business Dull

A terrific July heat wave put a crimp in business in the Chicago area during the past week. Retail outlets showed the effects of stagnation in business while the manufacturing representatives located in the city were unanimous in reporting a lull in inquiries and orders. Krafts continued to hold the local spotlight, buoyed up by excellent production records and by the European situation, which finds European producers busily engaged in filling their own orders for cartons and pulp, thus having a favorable reaction on local pulp markets. Groundwoods were firm with the markets steady while sulphite bonds remained constant at the lower figure set two weeks ago. Fine paper lines in general were steady though slow. Books and covers showed little or no change. Waste papers were dull with only one or two of the better grades reporting much activity.

News of the Industry

Offering of 68,000 shares of Pictorial Paper Package Corporation $5 common stock, made at $5.25 a share, was a feature of local financial circles during the week. This does not represent new financing on the part of the corporation. The underwriter, A. H. Harrison & Co., has an option to purchase 10,000 shares at $5 a share on or before May 5, 1939. Incorporated in Illinois in 1878, the company is engaged in the manufacture and distribution of stiff paper boxes, folding paper boxes, paper and composite cans and lithographed and stamped labels. Authorized capitalization comprises 137,000 shares of $5 par value common stock, of which 105,700 shares are outstanding after giving effect to the exchange of preferred stock for common and a split of the capital structure 20-to-1 in May of the current year.

The Salesmen's Association of the Paper Industry, Midwest Division, decided last Monday, July 6, to continue the holding of weekly meetings at the Hotel LaSalle during the entire summer. There were two reasons given for this definite decision to brave the summer heat for regular routine work. First, was the belief that the paper market provided a real reason for constant contact with the situation and the interchange of information on various grades. Secondly, the salesmen feel that the weekly luncheons help to stimulate active interest in the monthly golf outings, the third of which is to be held at the Knollwood Club on Friday, July 24.

C. L. Streeter, 538 South Clark street, has been appointed sales representative for the line manufactured by the P. H. Glatfelter Company in the Middle Western territory. Mr. Streeter, who was formerly identified with the Swigart Paper Company, has had a great deal of experience in the merchandising of fine papers and is expected to do an effective job of contacting merchants on the Glatfelter line of book, bond and mimeo papers.

Member lines are being asked by the southern ports foreign freight committee to vote on a proposal to establish sharply reduced import rates on kapok in bales which will enable Gulf Ports to compete for traffic destined for Chicago, St. Louis and East St. Louis. Kapok moving to Chicago via the Pacific Coast takes an ocean-rail combination of $2.68 per 100 pounds. The proposal is to reduce the rate on kapok, when arriving from the Far East via the Panama Canal from 77 cents per 100 pounds to 55 cents, thus materially reducing the ocean rate.

The Sulphite Bond Group of the Writing Paper Manufacturers Association will meet at the Drake Hotel, Chicago, Thursday, July 30. The group, under the supervision of E. H. Naylor, executive secretary of the Writing Paper Manufacturers Association, will concentrate all of its business session into an afternoon program beginning at 2:30 P. M. Because of the present market situation, attendance at the important meeting is expected to be large and represenative.

E. J. Cady & Co., 549 West Washington street, Chicago, recently announced that the S. & S. Corrugated Paper Machinery Company, of Brooklyn, N. Y., had been selected to represent the local concerns line of board testers. The company also announced that Walker, Goulard, Plehn Company of New York City had been appointed as agents for scales and micrometers in the eastern territory.

The Wolf River Paper and Fibre Company, Shawano, Wisconsin, with offices in the Conway Building, has perfected a new novelty stripe—"Royal Stripe," coming in white, pink, blue, green, orange, yellow and brown colors.

Reading Paper Mill Receivers Petition to Sell

Permission of U. S. Federal Court Requested for Private Sale of Major Part of Assets to W. C. Shortess, Head of Acme Paper Board Co. for $85,000—Reading Companies Offer $6,000 for Perpetual Easement on Water Rights

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., July 13, 1936—Receivers of the Reading Paper Mills are preparing to submit a petition in the Federal Court for the private sale of the major part of the assets to W. C. Shortess, head of the Acme Paper Board Company, for $85,000, it was announced last week.

Federal Judge William H. Kirkpatrick handed down an order refusing to approve the public auction sale of the assets. A total of $53,500 was bid at the auction for all the assets except the Packerack mill, the water rights of the Tulpehocken dam and the cash and accounts receivable.

The Reading Company and the Reading Iron Company have offered the receivers $6,000 for a perpetual easement on the water rights of the company, with permission to the Tulpehocken plant to use whatever water it may need.

Association Activities

President George K. Hooper of the Paper and Cordage Association, Inc., called a meeting on Tuesday evening of this past week in an effort to ascertain those members who have been delinquent in attendance at the regularly scheduled meetings of the association during the year, with the hope that attendance in the future might be stimulated when the activities begin again in September. Those who attended this meeting, which was held at 5:30 o'clock in the office of E. K. Lay, Drexel Building, were Sam Shyrock, E. K. Lay, T. C. Hanna, J. R. Howarth, James Andrews, Fred Brower, H. S. Platt and George K. Hooper. After the meeting all gathered around the festive board at "The Bourse."

Oddly enough it was learned that those who had not been attending the meetings regularly were, for the most part, mill representatives whose business, of necessity, requires their being out of town at various intervals. It was suggested that a list of the names of those who have been irregular in attendance be prepared and equal distribution of them made among those present, each of whom was in hearty accord with the plan to contact those members on his list with a view to acquainting them with the work that is being done by the association and the valuable contacts made by regularly attending the scheduled meetings, the first of which will be held in September.

E. K. Lay, of E. K. Lay Company, and James Andrews, of Schuylkill Paper Company, were appointed to secure ideas for a new insignia to be adopted by the association, which it is proposed to use on the stationery of all those who are members of the association. The membership to date totals 89 and includes:

John J. Shinners, Jr., Acme Specialty Sales Company, 1304-18 North Howard Street; Morrison Moose, Albemarle Paper Manufacturing Company, Drexel Building; J. G. Birle, American Forest Products Company, 24th and Race streets; H. N. Newell, American Manufacturing Company, Front and Shunk streets; E. C. Buckley, American Paper Goods Company, 875 Drexel Building; F. W. Hastings, American Writing Paper Company, 406 Bourse Building; Frederick I. Brower, Atlantic Gummed Paper Corporation, 641 Drexel Building; O. Kai Madsen, Badger Paper Mills, Inc., 3120 St. Paul street, Baltimore, Md.; Leon Beck, The Charles Beck Company, 401 North Broad street; Walter W. Rolfs, Better Packages, 401 North Broad street; G. A. Bossler, 306 New street; E. L. Richards, Buffalo Envelope Company, 401 North Broad street.

Charles A. Labor, Champion Coated Paper Company and The Champion Fibre Company; Harry S. Platt, Denney Tag Company, 1134 Real Estate Trust Building; B. M. Zieve, Diamond Paper and Box Company, 246 North Delaware avenue; W. R. Ingersoll, Dill & Collins, Inc., Richmond and Tioga streets; W. V. Edkins, 617 Drexel Building; D. N. Crimmins, Edwin H. Fitler Company, 517 Arch street; W. T. Clark, J. E. Fricke, 40 North Front street; John Heverly, Garrett-Buchanan Company, 18 South 6th street; H. G. Kleinfelder, Jr., Grady Travers Company, 210 South 4th street; Constant Southworth, Hampshire Paper Company, South Hadley Falls, Mass.; T. C. Hanna, 776 Drexel Building.

Charles H. Wendt, Hinde & Dauch Paper Company, 348 Drexel Building; Raymond F. Armstrong, F. W. Hoffman Company, Inc., 35 South 4th street; George K. Hooper, Hooper Paper and Twine Company, 105 Church street; J. R. Howarth, Jr., J. R. Howarth Paper Company, 804 Sansom street; Frank T. Hufnal, Huff Paper Company, Delaware avenue and Spring Garden; Leonard Fitzgerald, Hummel-Ross Fibre Corporation, 776 Drexel Building; D. N. Newell, International Paper Company, Ledger Building; W. E. Swan, Kalamazoo; Vegetable Parchment Company, Drexel Building; Harry R. LeNoir, Jr., Krout & Fite Manufacturing Company, 1952 East Allegheny avenue; E. Latimer, Jr., 126 North 4th street; E. K. Lay, E. K. Lay Company, 939 Drexel Building; Erwin Brown, The J. P. Lewis Company, 5722 Greene street, Germantown; Carl W. Maglathlin, Mt. Holly Paper Company, 410 Arch street; Ralph Matthais, Matthias Paper Company, 425 Arch street; Webb Mather, Mather Paper Company, 611 S. Front street; George W. Sherburne, Menasha Products Company, 1528 Walnut street; M. C. Redding, C. Moore & Co., Inc., 508 Market street.

C. I. Gordon, Nashua River Paper Mills, 319 East 23rd street, Brooklyn, N. Y.; J. W. F. Blizzard, National Fibrestok Envelope Company, 427 Moyer street; Harold B. Collins, National Waterproofing Company, Front and Lime streets, Camden, N. J.; V. A. Dirvin, Paper Manufacturers Company, Inc., 5th and Willow streets; I. J. Sheppard, Peerless Paper Company, Oaks, Montgomery Company, Pa.; Arthur Schroeder, Pjepscot Paper Company, 42 Broadway, N. Y.; Harry A. Clair, Progresive Paper Company, 134 North Delaware avenue; Howard W. Lee, Quaker City Paper Company, 307 Vine street; Leonard Raymond, Raymond & McNutt Company, 9th and Sansom streets; J. J. Glass, Ridgewood Paper Company, 924 Cherry street; D. A. Wickerham, Sanitary Products Company, 2710 Lefevre street; H. Satterthwaite, Satterthwaite-Cobaugh Company, 22nd and Market streets; Nathaniel Saxe, Saxe Paper Company, 320 Race street.

James Andrews, Schuylkill Paper Company, 260 North 3rd street; Samuel Schwartz, Schwartz & Co., 151 North 3rd street; Seaman Paper Company, 122 East 42nd street, New York; Irvin H. Hamilton, Schlichter Jute Cordage Company, Trenton and Castor avenues; Arthur B. Sher-

(Continued on page 15)

Ontario Paper Mills Report Fair Activity

With Exception of Newsprint, Manufacturing Operations Are Below Normal—Demand for Various Grades of Fine Paper Falls Off Slightly—Coarse Paper and Bags Moving Slowly—Orders for Paper Board Numerous

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., July 13, 1936—Spotty conditions continue to exist in both the wholesale and manufacturing ends of the paper industry, with a rather limited demand in most sections. This is due largely to the presence of the holiday season and is likely to exist for a month or so yet. Some of the paper merchants report business as distinctly dull while others are enjoying a fair turnover despite the seasonable quietness that has overtaken the trade as a whole. As far as the fine paper market is concerned there has been a slightly greater falling off in business in such lines as bonds and ledgers, while book papers have kept up fairly well. Quite a good trade is being done in waxing, greaseproof and glassine, while tissues and toilets are moving quite well despite a lot of domestic competition.

The mills in general report a fair degree of activity but in a very few lines is there anyway near the maximum of production. Most of the coarse paper lines and paper bags are moving rather slowly, although the paper board section reports orders on hand sufficient to keep the plants running for some time. This means that fair business is being done by the paper box manufacturers. Conditions generally in the paper converting line are quiet, as they have been for some time past.

Spruce Falls Doing Fairly Well

Net sales of newsprint and sulphite pulp for the year ended April 30, 1936, by Spruce Falls Power and Paper Company, amounted to $5,300,000, an increase of $443,210 over 1934. Gross profits of $759,774 were little more than in 1934 but net earnings were more and net loss less. The additional revenue from the increased sales and the advance of $1 a ton on January 1, 1936 were absorbed by increased costs. The general situation of the company has been improving, however, during the depression. As shown by the income and surplus account the accumulated operatings deficit is $817,360, as compared with an operating surplus of $292,271 in 1930. But since 1930 the company has reduced its 5½ per cent. first mortgage bonds from $15,000,000 to $9,000,000, at the rate of $1,000,000 yearly. The company has paid no dividends since October 1, 1932. Kimberly-Clark Corporation holds $2,500,000 first preferred and other shares of the company and first preferred and common stock are held by the New York Times Company. In view of the fact that the best part of the fiscal year now reviewed was in the last four months of it, the prospects for the current year appear much brighter. For the year as a whole the company's sales of newsprint were 10.6 per cent. higher in tonnage and 10.9 per cent. in value and the sales of sulphite pulp 13.3 higher in tonnage and 4.1 per cent more in value than in the preceding year.

Lincoln Reduces Capital Stock

Lincoln Pulp and Paper Company, a subsidiary of Alliance Paper Mills, which in turn is controlled by Howard Smith Paper Mills, has taken out supplementary letters patent reducing the authorized capital stock from 200,000 of 7 per cent pre-preferred stock; 1,250,000 of 7 per cent preference stock, and 6,000 shares of no par value common stock. The decrease will be effected repayment and cancellation of 2,000 issued shares of pre-preference stock of par value of $100 each, and by the repayment and cancellation of 4,116 shares of preference stock of the par value of $100 each. All of these shares are held by the Alliance Paper Mills.

Notes and Jottings of the Trade

In a letter to shareholders of Hinde & Dauch Company of Canada, Ltd., accompanying dividend cheques, S. F. Winchell, vice-president and general manager, head office Toronto, reports that sales of the company continue to keep pace with those of industry as a whole, and on a reasonably profitable basis. It is forecast that the general demand for the year for both board and box products will exceed that of 1935. "Recently," Mr. Winchell states, "your directors approved the installation of certain additional equipment and such additions will be made within the next two or three months. It is expected that this will tend to improve the quality of our products and lower costs somewhat. Your directors are quite satisfied with the results of operations so far in 1936 and are optimistic as to its future."

The cutting of pulpwood, the principal revenue of the citizens of Gaspe and district, is now being done by many of the farmers. The Canadian International Paper Company, whose resident manager is C. K. King, has a large number of men cutting and peeling wood on their Dartmoor river limits which they purchased several years ago and a number of jobbers have camps in operation along the York River, on the old Howard Smith Company limits. The pulpwood will be shipped next summer. The company have already shipped five steamer loads of rough wood to their newsprint mill at Three Rivers from Gaspe this season. The remainder of last season's peeled wood, about three loads, will be shipped to Portland, Me., Baltimore, Md., and Albany, N. Y.

Word from Charles W. Cox, Ltd., forest products, Port Arthur, Ont., states that the sap-peeling season is in full swing with a fairly good demand for export wood. The prices are fair. Approximately 3,000 men are working in the Port Arthur district but there are also a considerable number of unemployed, due to the fact that a great number have been attracted to the district by the woods and mining activities. The wages being paid are a little higher than last year and no labor difficulties are anticipated.

Among the Ontario paper box men who have responded to the lure of the field and stream or a vacation abroad are George Hobart, on his way to England; W. P. Bennett, off to Yellowstone Park, Jack Marshall to Minaki and Edward Prattis to California.

John Finlay, of the head office in Toronto of Alliance Paper Mills, has returned to his desk after an enjoyable trip to Europe with his son and Mrs. Finlay.

A visitor to the city this week was H. S. Ramsay, western representative of the Howard Smith Paper Mills. Mr. Ramsey, who makes his headquarters at Winnipeg, is east on his summer vacation.

Obituary

Joseph H. Wallace

Joseph H. Wallace, widely known industrial and paper mill engineer, died Tuesday of last week, July 7, at the Mercy Hospital, Hamilton, Ohio. For the past five years he had been connected with the Black-Blawson Company, paper machinery builders, of Hamilton.

Mr. Wallace was graduated from the Worcester Polytechnic Institute of Worcester, Mass., in 1892 in the course of civil engineering with the degree of B. S. and received the degree of C. E. in 1899. Soon after his graduation he became connected with the firm of A. B. Tower & Co., leading paper mill engineers. George F. Hardy was a member of the concern and connected with it also at that time was Hardy Ferguson of Hardy Ferguson & Co.

About 1900 Mr. Wallace entered business for himself, the firm in its later years being the Joseph H. Wallace & Co. This concern completed twenty-five years occupancy at Temple Court Building, New York, in 1925. During that period the organization designed and supervised over fifty successful manufacturing and power plants, the greater portion of which are representative pulp and paper producers. They are widespread in location: Atlantic Coast, Pacific Coast, Gulf of Mexico, Canada and Europe; and they manufacture practically every variety of paper and pulp.

Mr. Wallace also had experience operating mills for which he had furnished designs, notably, Southern Paper Company Kraft pulp and paper mill at Moss Point, Miss., a pioneer in the southern pine field; and Empire Mills at Greenhithe, Kent, England, a five machine plant making a wide variety of fine papers.

In January, 1926, he succeeded Frank L. Moore, deceased, as president of the Westfield River Paper Company and he was also president of the Deerfield Glassine Company. For both of these companies, he furnished designs for improvements, operated the plants and sold the products.

Mr. Wallace was greatly interested in the manufacture of paper from Southern Pine. In closing his article "An Old Timer's Reminiscences," which ran serially in the PAPER TRADE JOURNAL in 1931, he wrote as follows:

"The closing of our London office early in the war resulted in our devoting more time to study of fibers and their possibilities and our laboratory and miniature sulphate mill had developed into the most practical experimental plant we had seen. Operating this little mill for these years at the plant of Southern Paper Company, Moss Point, Mississippi, had resulted in a pretty good calibration by which the results obtained could be measured closely in mill terms. Greenwood and Stevens had become proficient operators with the experience of tests for the War Department and some of the facts developed were found to have value in peace time operations. The force was augmented by several other good men, among them William F. Burleigh, a chemist who graduated with my class at Worcester Polytechnic Institute, and who had made a study of resins, and other non-cellulose matter contained in Southern woods.

"During 1919 to 1925 we undertook to interest capital in manufacturing turpentine, pine oil and rosin as by-products to paper made from Southern pine woods. Also in producing white papers of quality from these woods but to no avail. It appeared that the bell cow having made kraft all the cows will make kraft and nothing else from the Southern pine woods until another bell cow develops. At an operating paper mill in 1919 and 1920 we produced magazine book of high character from Southern woods, and certain publishers tried the paper and pronounced it O. K. Certain manufacturers of naval stores (turpentine, pine oil and rosin) from Southern pine woods, though seeking for advice as to making paper from the spent chips after extraction, were skeptical when we tried to persuade them that paper possibilities should dominate the operation.

"Our 'Story of Pine Waste' has so far been wasted. *But,* we predict that white papers of a high grade will be made from Southern woods and that by-products will pay for the wood delivered into the digester and that these chips (already extracted) will be not only the best chips ever used for chemical pulp, but will be the *only uniform* or *standardized* wood material the industry ever has had. Then and only then will chemical pulp be uniform in character and technical control, a fact. These remarks have been made by other smarter than we are, and we believe them. We long for the time when each ton of wood from cut-over lands extraction plants will produce $20.00 worth of by-products as well as $30.00 worth of paper. It will be done and we hope to live to see it. Some big men in the industry told us in 1908 that we were crazy to expect to see kraft paper made from Southern wood. We are still crazy and enjoy it too!"

Mr. Wallace was a member of the American Society of Civil Engineers, the American Society of Mechanical Engineers and was a charter member of the Technical Association of the Pulp and Paper Industry. He was chairman of the Organization Committee of the Technical Association of the Pulp and Paper Industry and organized the Ohio Section of TAPPI. Mr. Wallace was a former commodore of the New York Yacht Club. He is survived by his widow and one daughter.

Frederick Reynolds Sisson

[FROM OUR REGULAR CORRESPONDENT]

POTSDAM, N. Y., July 11, 1936—Frederick Reynolds Sisson, 65 years old, assistant treasurer of the Racquette River Paper Company, died suddenly this week at his home here. He was stricken with a heart attack from which he failed to rally. When a young man he entered the lumber business and following a decline he took charge of outside work at the Racquette River Paper Company. He had supervision over the pulp mill and all outside operations in the yards. At the time of his death he was assistant treasurer of the company and was in charge of the company houses and property at Sissonville. He was active in civic and social affairs and spent much of his spare time at the Potsdam Country Club. The survivors include his wife, two children, five brothers and two sisters.

Max Bleyer

Max Bleyer, vice president of the Bleyco Paper Corporation, manufacturers of paper specialties, 226 Wooster street, New York, passed away on July 7 after a short illness. He had been associated with his son George S. Bleyer, president of the company for many years, who will carry on the business.

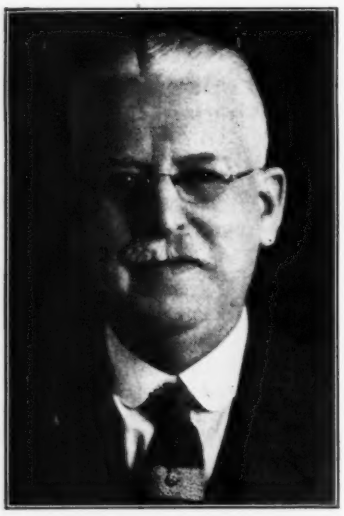
Erving Paper Mills Not To Move

ERVING, MASS., July 14—Announcement was made the past week that the Erving Paper Mills in Erving will remain in their present location. There was some discussion of removing to Holyoke on account of damage done to the plant by the high March floods but this has been abandoned.

Charles C. Walden, Sr. Dies Suddenly

Charles Carroll Walden, Sr., aged 80 years, for 52 years publisher of business papers for the paper and printing trades, died of a heart attack at his home, 168 North Maple avenue, Ridgewood, N. J., at 5:30 o'clock, Tuesday morning, July 14. Dean of paper trade publishers, Mr. Walden, who was president, Walden Sons & Mott, Inc., publishers of *Paper & Paper Products, Printing, Walden's A B C Guide for the Paper Industry,* and *The Paper. Catalog,* was at his desk, 41 Park Row, New York, on Monday.

Coming from an old New England family, he was born in Brooklyn, N. Y., March 29, 1856, the son of Thomas and Mary O. Phelps Walden. At an early age he married Miss Anna Penniston. Mrs. Walden died March 30, 1931.



CHARLES C. WALDEN, SR.

In 1873, when 17, Mr. Walden obtained a position with Howard Lockwood, then publisher of the PAPER TRADE JOURNAL. His father was also associated with the organization. Later, he became identified with the advertising staff. In 1884, Mr. Walden and his father secured offices at 29 Park Row, New York, and brought out the first issue of the *United States Paper Maker,* which has since become *Paper & Paper Products.* Later, father and son started the *New England Stationer* with offices in Springfield, Mass., and in 1886, published the first issue of *Walden's A B C Guide.*

In September, 1919, the Walden Publishing Company, which over the years had also started publication of *Walden's Stationer* (since sold to *Geyer's Stationer*) as an addition to its chain of trade publications, joined forces with the Walden-Mott Company, publishers of *Printing* and *The Paper Catalog,* and the firm became Walden, Sons & Mott, Inc.

An ardent Democrat, Mr. Walden served on the Bergen County (N. J.) County Committee. He was a member of Christ Episcopal Church, Ridgewood, N. J., and of Ridgewood Lodge, B. P. O. E., No. 1455.

He is survived by two daughters and four sons, Mrs. Ethel P. Howard, Oak Park, Ill.; Mrs. Alvah E. Reed, Ridgewood; Tom Walden, Ridgewood; Charles C. Walden, Jr., former Mayor of Tenafly, N. J., and now of Stone Ridge, N. Y.; Lionel A. Walden, Rockville Center, N. Y., and Van R. Walden, Glen Rock, N. J. Twelve grand children and four great grand children also survive.

Funeral services were held from Christ Episcopal Church, Ridgewood, Thursday, at 3 p. m. Interment was made in the family plot in Valleau Cemetery, Ridgewood.

Boston Paper Business Fairly Active

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, MASS., July 13, 1936—Business with the wholesale paper merchants here was generally fair last week. July is usually a quiet amonth and while sales were somewhat slower, it is felt that the summer decline this year will not be so pronounced as it has been in some seasons. At the local office of a company manufacturing both fine and kraft papers, it was stated that there had been a spurt of business the last two weeks, but that a quiet month is expected. Printing papers were less active, but the trade is "not pessimistic." Some wrapping paper houses commented favorably. One firm noted that it had been "a busy week," another that it was "pretty good" and a third, "fair for the time of year, holding up pretty well." In tissues, sales were a little better than fair, with a good tonnage. Box board was quiet, as many box factories were closed. Most of them are expected, however, to resume operations this week after being closed from a week to ten days.

The paper stock market was somewhat quiet, with a few declines in price, although a number of grades moved to a certain extent. Under old papers, mixed papers, old newspapers and corrugated boxes were rather active, with prices unchanged. Rope held its own, but bagging was not so firm as it had been. Bleachery burlap declined to 4.25 @ 4.50 from 4.50 @ 5.00, foreign scrap burlap to 1.90 @ 2.00 from 2.00 @ 2.10, domestic scrap burlap to 1.60 @ 1.75 from 1.75 @ 1.85, and Australian wool pouches to 2.25 @ 2.35 from 2.25 @ 2.50.

New domestic rags held strong, with quotations remaining at the same levels. While there was a fair amount of activity in most grades of old domestic rags, business was slack in roofing stock, as the roofing industry is quiet in July and August. No. 1 roofing stock went down to 1.35 @ 1.45 from 1.50 @ 1.65, the No. 2 grade to 1.25 @ 1.30 from 1.30 @ 1.35, and No. 3 to 1.10 @ 1.15 from 1.10 @ 1.15. Foreign rags were not very active, the prices of domestics were so low.

Trustee for Philemon Creek Paper Co.

BROWNVILLE, N. Y., July 14—At a meeting of creditors this week of the bankrupt Philemon Creek Paper Company, the appointment of Attorney Theodore W. Charlebois as trustee was announced by Judge John Conboy. Objections to the account of Ralph L. Hyde, Syracuse, trustee appointed by the Federal Court last fall to continue the business pending reorganization efforts of the company, were filed by Attorney Henry A. Hudson, representing a number of the creditors. Adjournment was then made by Judge Conboy to July 20. Attorney Hudson based his objections on the ground that the account does not set forth all the facts and figures it should, there being no statement of what property Trustee Hyde took over, what the company manufactured during his regime, or what was left on hand. Judge Conboy said he was in receipt of a letter from the state tax department inquiring whether stock transfer stamps had been affixed and canceled on stock transactions and if so, where the stamps had been procured. Assistant Attorney-General Barnes in behalf of the state and Attorney Stanley Williams, Syracuse, representing the bankrupt, requested adjournment of the hearing.

Masonite Corp. to Split Stock

A special meeting of Masonite Corporation stockholders has been called for July 22 at Wausau, Wis., to consider a plan of financing which provides for two-for-one split of common stock through exchange of outstanding 266,689 shares of no par common for 533,378 shares for increase in authorized new stock to 700,000 shares from 600,000 shares, for redemption of outstanding 7 per cent preferred stock.

READING PAPER MILL RECEIVERS PETITION TO SELL

(Continued from page 11)

rill, 718 Lafayette Building; Samuel S. Shyrock, Jr., Shyrock Brothers, 924 Cherry street; T. H. B. Smythe, J. L. N. Smythe Company, 32 South 6th street; E. E. Ketcham, Southern Kraft Corporation, 220 East 42nd street, New York; Raymond C. Ramsay, E. J. Spangler Company, 1237 North Howard street; Daniel J. Troy, Temple Paper Company, 425 North 40th street; Cecil Bentley, Terminal Paper Company, 401 North Broad street; R. A. Lawley, Union Bag and Paper Company, 401 North Broad street; H. Lefkowith, S. Walter, Inc., 144 North 5th street; W. W. McDowell, D. L. Ward Company, 401 North Broad street; Wheeler Paper Company, 939 Drexel Building; A. E. Whiting, Whiting-Patterson Company, 310 North 13th street; W. G. Wilcox, Wilcox-Walter-Furlong, 17 South 6th street; C. A. Wilder, Wilder Brothers Company, 12th and Brown streets.

Amos M. Coath, Frank W. Winne & Sons, Inc., 44 North Front street; Gustav Bauer, Wolf Brothers, 340 North 12th street; W. A. Welsh, Welsh Paper Company, 505 Chestnut street; William H. Lloyd, 111 West Hortter street, Mount Airy, Philadelphia; John Alden, Vortex Cup Company, 2401 Chestnut street; Van R. Walden, Walden Sons & Mott, Inc., 41 Park Row, New York; A. Clarence Steinberger, Stark Paper and Twine Company, 217 Race street; Spencer M. Holden, Mount Holly Paper Company, Mount Holly Springs, Pa.; Richard Ashby, Mohawk Paper Mills, 1522 Lincoln-Liberty Building; O. Freile, Paper Merchants, 140 North 6th street.

Norbert A. Considine, Paper House of Pennsylvania, 28 North 6th street; G. R. Niswander, Continental Paper and Bag Company, Commercial Trust Building; H. H. Mason, Lily Cup and Specialty Company, 401 North Broad street; Leroy Phaup, Whiting Paper Company, 619 Chestnut street; Ira Reynolds, Saint Regis Paper Company, 230 Park avenue, New York; James W. Garrett, Garrett Paper Company, 1614 Summer street; R. P. Bentley, Bentley Paper Company, 723 Ledger Building; Robert Murray, Union Envelope Company, 892 Drexel Building.

Mrs. Doris E. Lewis, executive secretary of the Paper Trade Association, has notified the trade here that the office of the association will be closed for a week commencing July 20, at which time Mrs. Lewis is leaving for a hard-earned vacation.

Wisconsin Paper Mills to Reorganize

Plans for reorganization under section 77B of the national bankruptcy act have been filed in federal court at Madison by the Mosinee Paper Mills Company, Mosinee, and the Tomahawk Kraft Paper Company, Tomahawk, under which, if they are approved, interest payments on bonds may start in October.

Under the Mosinee plan for reorganization, first mortgage bondholders are to receive new first mortgage 5 per cent bonds dated April 1, 1936, maturing 15 years later. Past due unpaid interest to April 1, 1936, is to be accounted for by adding a coupon due at maturity equivalent to such interest. Bondholders likewise are to receive 55 shares of common stock for each $1,000 par value of old bonds, equivalent to their pro rata share of one-third of common stock.

Timberlands are to be brought in under the mortgage securing the bonds and will likewise ratably secure $250,000 collateral trust notes.

The Mosinee company defaulted on $1,500,000 gold 5½ per cent bonds issued under a mortgage dated April 2. Mosinee authorized issuance of $250,000 of collateral trust notes which improved its working capital and enabled the retirement of outstanding bank loans.

A balance sheet dated April 14 showed the Mosinee firm having total assets of $4,451,167. Current assets amounted to $920,656.

The plan of reorganization of the Tomahawk Kraft Paper Company provides that holders of the old bonds will receive an equal par value of new 5 per cent first mortgage bonds, dated April, 1936, and maturing in 15 years, together with 10 shares of Class A, $25 par value common stock for each $1,000 of old bonds in lieu of past due unpaid interest.

Holders of second mortgage bonds and unsecured claims are to receive certain shares of Class B stock for their interest, represented by voting trust certificates. Holders of old preferred stock receive voting trust certificates for Class C stock. Holders of common stock receive nothing.

The voting trust agreement on Class B and C stock provides that in event of certain defaults such stock shall be surrendered to the corporation, with the view that if defaults continue, under conditions set forth in the plan, ultimate control and ownership of the business will vest in Class A stock to be received by the old bondholders.

The Tomahawk company defaulted in interest on its $1,150,000 gold 5½ per cent bonds issued under a mortgage dated April 2, 1923. It also has outstanding $229,004 of the 7 per cent serial mortgage debenture bonds dated April 2, 1923, and promissory notes in the principal of $191,993 on which $28,089 in interest had not been paid on April 1.

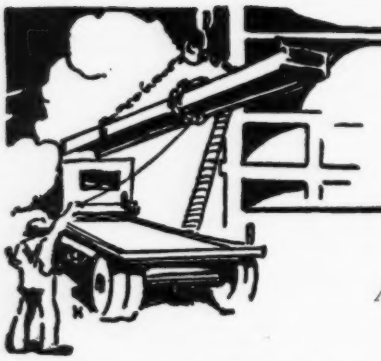
The balance sheet of the company as of April 14 showed total assets of $2,718,267 and current assets of $581,551.

Testimonial Dinner for W. H. Martens

A testimonial outing and dinner is to be tendered Walter H. Martens, manager of the Mill Supply Department of George W. Millar & Co., Inc., 284 Lafayette street, New York, and president of the New York Association of Dealers in Paper Mills Supplies, Inc., in commemoration of the signal freight rate victory achieved by Mr. Martens on behalf of the New York Association and the paper stock industry at large and resulting in an important reduction in freight tariffs on shipments of rags, waste paper and other waste materials.

A committee of the association members is arranging a dinner in honor of Mr. Martens for the evening of Monday, July 27, at the Larchmont Country Club, Larchmont, N. Y. The event will be designated as a "Victory Dinner" and will be in celebration of the trade's victory over the railroads in the long four-year fight against higher and in favor of lower paper stock freights. The dinner will be given in conjunction with a golf tournament on the afternoon of July 27 over the Larchmont course, and a big celebration with sumptuous repast, music and entertainment is planned. The event will be arranged so that those attending may spend a half day or longer in their offices in the morning, reach the country club by 2 P. M., participate in the golf competition and be on hand for the dinner and festivities in the evening.

Julius Levine, Arthur Rosenfeld, Miss Shirley Reif, Harris Goldman and Laurence W. Giove compose the committee arranging the affair. All in the trade expecting to attend are requested to communicate at once with either Mr. Levine, of S. Schapiro & Sons, Inc., 154 Nassau street, New York, or Mr. Rosenfeld, of William Steck & Co., Inc., 38 Park Row, New York.



CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

Laurel, Miss.—The Masonite Corporation, manufacturer of insulating board products, etc., has plans maturing for an addition to local mill, to be used for the production of plastic board of new type. It will be one-story, 70 x 250 feet, located on adjoining site, which is now being cleared to make way for new structure. Erection is scheduled to begin early in August and mill will be completed late in the fall. It is estimated to cost over $100,000, with equipment. Company has formed a new unit, to be known as Masonite Plastic Division, to operate the plant. Executive offices are at 111 West Washington street, Chicago, Ill.

Albany, N. Y.—Several inaccuracies appeared in the item printed in Construction News last week regarding the new addition to the mill of the A. P. W. Paper Company. The facts regarding this improvement are as follows: The structure will be a two-story building, 200 feet by 200 feet with no basement. It will contain the main office. J. P. Sewall, 372 Hudson avenue, Albany, N. Y., is the general contractor. The American Bridge Company is furnishing the structural steel. The columns of the building will be manufactured by the Lally Column Company at Long Island City, N. Y. The Claussen Iron Company, Albany, will handle the erection. The cost of the building will be about $200,000. Johnson & Wierk, Grand Central Terminal Building, New York City, are the consulting engineers.

St. Louis, Mo.—The National Box Company, Inc., 1450 South Vandeventer street, manufacturer of corrugated paper boxes and containers, has acquired a one-story building at corner of Vandeventer street and Boyle avenue, and will remodel and equip for expansion. It is proposed to take over the property and occupy at once.

New Britain, Conn.—Cottle Containers, Inc., recently organized with capital of $50,000, plans operation of local plant for the manufacture of paper boxes and containers. New company is headed by Charles V. James and Leon P. Lewis, 16 Franklin street, Norwich, Conn.

Menasha, Wis.—The Central Paper Company has approved plans for new one-story building, 60 x 90 feet, for storage and distributing service and will begin work on superstructure at once. General contract has been awarded to Fluor Brothers & Smith, 48 Otter street, Oshkosh, Wis. It will cost close to $20,000, with equipment.

Shelton, Wash.—The Rainier Pulp and Paper Company, 343 Sansome street, San Francisco, Cal., manufacturer of bleached sulphite fiber products, will proceed with erection of new addition to mill at Shelton, for which general contract was recently let to the R. Kimbell Company, Shelton. New unit will be used for increased capacity at mill and will include a breakdown clipping division. It will be located on a pile foundation and contract for this work has been awarded to J. H. Coyne, Port Townsend, Wash., including rebuilding of 16-inch pipe line for liquor discharge from mill. Entire project is reported to cost in excess of $350,000, including equipment.

Port Huron, Mich.—The Port Huron Sulphite and Paper Company is running on a heavy capacity schedule at local mill, with working force of about 350 persons in all divisions of the plant. This is a larger working quota than company was employing at this time in 1929. It is proposed to hold to present operating basis for an indefinite period.

Ironwood, Mich.—Marathon Paper Mills Company, Menasha, Wis., has begun construction of two buildings at timber properties in the Ironwood district, each 23 x 88 feet, to be used for dry kiln service. John S. Landon is superintendent at local plant.

Williamsport, Pa.—The Hilsher Paper Box Company, Day street, manufacturers of paper boxes and containers, has started work on extensions and betterments in local plant, recently referred to in these columns, and will purchase some new machinery and equipment for early installation. Entire project is reported to cost close to $45,000. C. E. Wentz is treasurer.

Buffalo, N. Y.—The Cooper Paper Box Corporation, Sycamore and Mortimer streets, manufacturer of paper boxes and containers, is running at close to capacity schedule, with day and night working shifts. Business is considerably advanced over this time a year ago. It is expected to hold to present production basis for an indefinite period. Theodore H. Irwin is vice-president.

North Arlington, N. J.—The Diamond Boning Corporation, 329 East 29th street, New York, N. Y., manufacturer of cellulose products, has leased a three-story factory at 108 Stevens place, North Arlington, and will improve and occupy for new plant. Equipment will be installed at early date.

Glens Falls, N. Y.—The Imperial Paper and Color Corporation, Warren street, manufacturer of wall paper stocks, has awarded contract for steel frame superstructure for new one-story power house at mill, recently referred to in these columns, to the Westside Structural Company, Nineteenth street, Waterviiet, N. Y., which will proceed with work at once. New unit will cost close to $50,000, with equipment.

Detroit, Mich.—The Detroit Paper Products Corporation, 5800 Domine street, manufacturer of corrugated paper boxes and containers, corrugated paper specialties for refrigerator insulation, etc., is planning early installation of new equipment in its corrugated paper division, including improvements in this division. The department will likely be curtailed for a short period to carry out this expansion. Company is operating at good capacity in new plastics division, recently placed in service, and

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giving employment to a sizable working quota. The entire plant is now running on a five-day week basis.

Niagara Falls, N. Y.—The Electric City Paper Mills, Inc., 25 Adams street, is completing an expansion and improvement program at local mill, including installation of new machinery to more than double former capacity. The equipment is being placed in service and a number of additions are being made to working force. It is expected to operate mill on maximum output basis with the new facilities. The program represents an investment of about $80,000, including machinery. Aledge Marleau is superintendent at the plant.

New Brunswick, N. J.—The former plant of the Empire Box Company, Codwise avenue, manufacturer of paper boxes and containers, etc., has been acquired by Ryerson & Haynes, Inc., Jackson, Mich., and will be converted for another branch of manufacture in future.

Cardiff, England—Thomas Owen & Co., Ltd., Cardiff, Wales, manufacturer of paper products, has acquired a large local tract of land as site for new mill, for which plans will be completed at early date. It will comprise several one and multi-story units for pulp and paper-making divisions, with power house, machine shop and other mechanical departments. It is proposed to begin work during the summer. Entire project will cost close to $700,000, with equipment.

New Companies

New York, N. Y.—The Marvel Container Corporation has been organized with capital of 10 shares of stock, no par value, to manufacture paper boxes and containers. New company is represented by the Albany Service Company, 315 Broadway, New York.

Everett, Mass.—Fibrecraft, Inc., has been chartered with capital of 1000 shares of stock, no par value, to manufacture fiber products. Earle R. Miller is president; Hilburne M. Crocker, 9 Anawan avenue, Saugus, Mass., is treasurer and representative.

Memphis, Tenn.—Modern Packages, Inc. has been organized to manufacture folding and other paper boxes and containers. New company is headed by P. H. Anderson and James W. Wrape, Sterick Building, Memphis.

Government Papers Bids

WASHINGTON, D. C., July 15, 1936—The Government Printing Office has received the following bids for 2,000 sheets of 24 x 36 brown cloth lined paper; Whitaker Paper Company, at $136.00 per M sheets; Reese & Reese, Inc., $136.00; Mathers-Lamm Paper Company, $139.00 and $133.33; R. P. Andrews Paper Company, $142.50; Barton, Duer & Koch Paper Company, $140.00; George W. Miller & Co., $145.00; Virginia Paper Company, $142.00; J. R. Howarth Paper Company, $137.36; and Walker-Goulard-Plehn Company, $133.32.

For 7,550 sheets (1,118 pounds) of red tag board; Reese & Reese, Inc., 7.25 cents per pound; R. P. Andrews Paper Company, 12 cents and Mathers-Lamm Paper Company, 11.83 cents.

For 5,000 pounds of bristol board; Mathers-Lamm Paper Company, 7.47 cents; R. P. Andrews Paper Company, 9 cents and Reese & Reese, Inc., 7.25 cents.

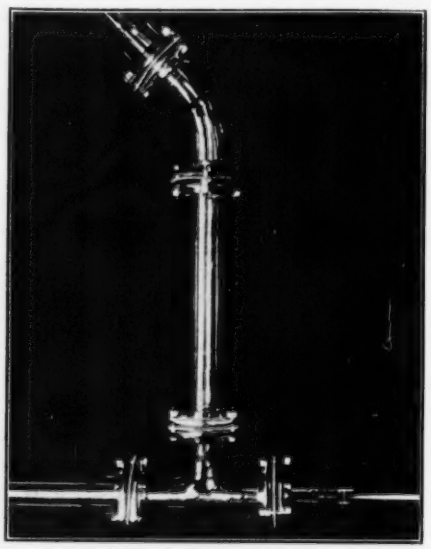
Melrose Paper Co. Chartered

BOSTON, MASS., July 13, 1936—The Melrose Paper Company, Inc., Melrose, Mass., has been incorporated with a capital stock of 100 common shares having no par value. Philip M. Berson is president; Samuel Newman, vice-president, and Hymon Wolf, 174 Mills street, Malden, Mass., treasurer.

Glass Piping in the Paper Industry

Coming from substantial demonstrations of its performance in the chemical industries, glass piping is now undergoing several trial installations in paper mills. Alum solutions, chlorine, sulphate and sulphite solutions are being handled, and to date the performance confirms the previous record of several years' standing in the manufacture of heavy chemicals.

The pipe is constructed of the glass used in a well-known type of laboratory glassware and has the same characteristic resistance to chemical solutions. Joints are of the compression type, using metal retaining or clamping flanges, out of contact with the solution in the pipe. Three



A GLASS PIPING LAYOUT

inches and smaller sizes are made and in addition to straight lengths there are also the usual standard fittings such as tees, ells, etc.

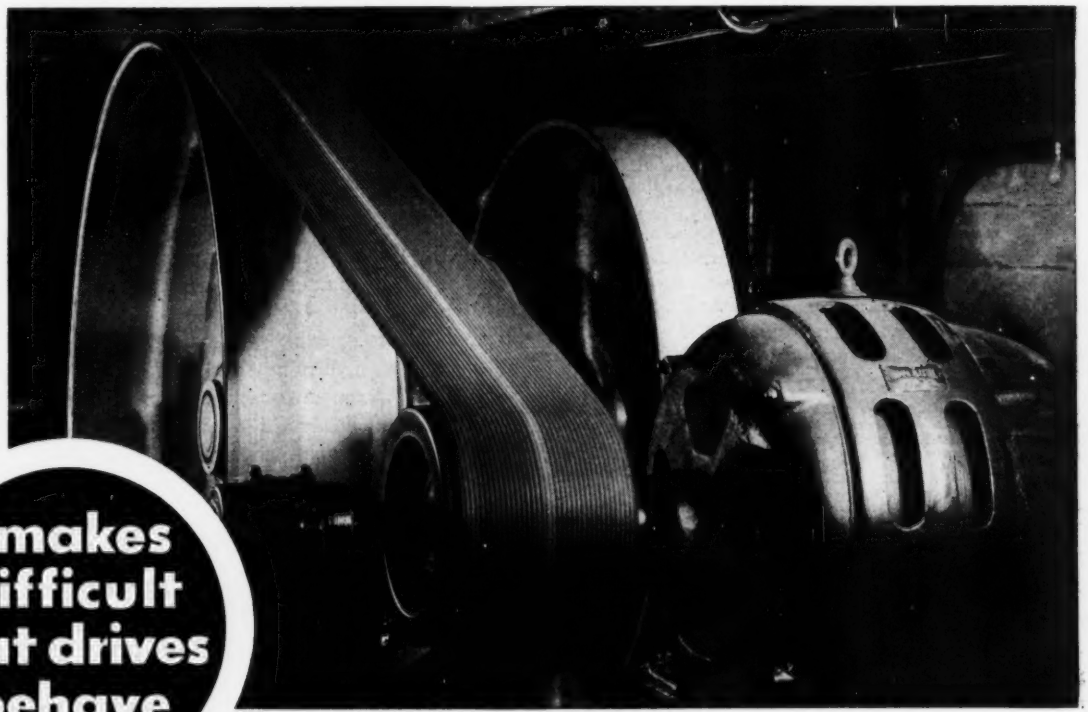
For coolers, the pipe also has experienced wide adoption in the chemical field due to its heat resistance to shocks of several hundred degrees. Straight lengths of glass pipe conveying the acid solution are jacketed with metal jackets for cooling water. The ends of these straight lengths of the pipe are then interconnected by means of suitable glass pipe U-bends, forming the conventional serpentine or trombone type of cooler. The heat resistance and chemical resistance of the glass thus combine to give applicability varying from the handling of acids and the heavy chemicals, with a minimum of solvent attack, to temperature maintenance of moving picture developer solutions, where contamination determines the success or failure of the entire processing operation.

British Paper Industry Improves

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., July 14, 1936—Reports from various sections of the paper industry in Great Britain for the month of April indicate that conditions were sound according to unofficial reports received here. Both producers and consumers of paper have enjoyed good business; consumption is expanding and the demand continues strong. The turnover in the higher grade papers was well maintained and there was an increase in activity in the newsprint section. The improvement in general trade conditions has been followed by a marked increase in the demand for kraft paper.

KABLE KORD



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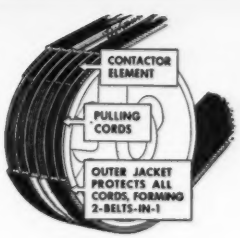

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FUTURE MEETINGS

TECHNICAL ASSOCIATION OF THE PULP AND PAPER INDUSTRY, Summer International Meeting in Canada, August 3 to 7, Montreal, Quebec, The Saguenay. Details may be obtained from the secretary, R. G. Macdonald, 122 East 42nd street, New York.

THE NEW PRICE DISCRIMINATION LAW

The new Patman-Robinson "price discrimination" law places the burden of proof of innocence upon the alleged violator it is pointed out in an analysis of the statute by the National Association of Manufacturers. English common law, which was the basis for America's statutes, contemplated that in similar criminal prosecutions the accused should be considered innocent until proved guilty. The Clayton Anti-Trust Act of 1914, the analysis says, "imposed upon the Federal Trade Commission the burden of proving that any alleged price discrimination came within the general prohibition of the law, but, the new Act purports to create a presumption that any price discrimination is unlawful, and places upon the person accused the duty of proving the contrary before the Commission.

"The Clayton Act prohibited price discriminations only when the effect of such discriminations was substantially to lessen or to tend to create a monopoly in any line of commerce. The Patman-Robinson bill has extended the prohibition to include any discrimination which may injure, destroy or prevent competition with the parties to the discrimination, or with their customers, without any necessary effect on the general level of competition in the industry or trade generally or in any particular locality.

"The prohibitions in the Clayton Act applied only to persons granting the price discrimination. The new Act would make it equally unlawful for any person knowingly to receive the benefit of any discrimination now declared unlawful.

"The Clayton Act expressly allowed a discrimination in price based on differences in the grade, quality or quantity of the commodity purchased. The new Act allows price differentials based on quantity only to the extent they reflect differences in the cost of manufacture, sale or delivery resulting from the 'differing methods or quantities' in which such commodities are sold.

"The Act allowed a discrimination in price in the same or different communities made in good faith to meet competition. The amended Act does not authorize such price discriminations expressly, but does permit persons charged with violating the law to prove in defense that a discriminatory price was made in good faith to meet the lower price of a competitor.

"The Clayton Act contained no prohibition against discrimination in the type of services performed by the seller for different buyers, or with respect to different allowances made by the seller for services or facilities furnished by the purchaser. The new Act requires the seller to treat all customers on proportionally equal terms.

"The Clayton Act contained no prohibition against the granting of commissions, brokerage or other allowances to persons acting for or on behalf of the purchaser. The amendments prohibit such payment or allowances, except to persons performing services for the seller.

"The Clayton Act contained no criminal penalty for a violation of Section 2 relating to price discriminations. For specified violations, the amendments impose penalties of fine and imprisonment."

STUDIES ON THE GROWTH AND USE OF FLAX FOR PAPER MAKING

A committee appointed by the Textile Foundation to supervise experimental studies on the growing and uses of flax concludes that a cleaning process more effective than any tried in these studies will have to be developed to produce a fiber satisfactory for paper making. These studies are fully described in an interesting pamphlet entitled "Experimental studies in Flax Growing, Decorticating, Chemical Degumming and Manufacture into Yarns and Papers" which has just been issued by the Foundation.

Flax was grown in southern localities of the United States under the supervision of Lyster H. Dewey, Department of Agriculture. Decorticating, chemical degumming, water retting, and spinning into yarn were studied under the supervision of H. H. Willis at Clemson Textile School. Miss Helen U. Kiely and Warren E. Emley supervised papermaking tests at the American Writing Paper Company and National Bureau of Standards, respectively.

The yields of straw were found to be too low and the cost of separating the fiber too high for profitable commercial operations. However, it is stated that different localities might give better yields of straw. Also, that future improvements in mechanical methods of decorticating and in chemical methods of degumming may enable 100 per cent flax to be run on cotton and woolen equipment profitably.

The possible use of American flax in the paper industry is discussed, in part, as follows.

The paper industry prefers to use the waste from the textile industry, to the practical exclusion of raw fiber, whether linen or cotton. Garment clippings or rags are better adapted to the papermaking processes; raw fibers are

too apt to become tangled during the preliminary cooking and beating. Moreover, textile wastes are always cheaper than raw fibers. The best grade of cotton rags (new white shirt cuttings) usually sells for two or three cents a pound less than raw cotton. The paper industry, has, therefore, practically no experience in the use of raw fiber, and little incentive to develop such experience.

The domestic production of cigarette paper, while offering an attractive field, seems dependent for its development upon the successful establishment of a domestic linen industry, for it seems unlikely that domestic raw fiber can compete with linen cuttings.

Five samples of American flax processed in different ways were made into experimental papers. Three of these were made by the National Bureau of Standards and two by the American Writing Paper Company. In every case, the fiber was found to be of good quality but not sufficiently free from dirt, shive, and woody material. When treated mildly, the dirt carried through into the paper, making the sheet unsalable. When treated with sufficient severity to remove the dirt, the strengh of the fiber was seriously impaired. It seems likely that most of this dirt would have been removed mechanically if the fibers had been put through the regular textile processes, which is another reason why the paper manufacturer is likely to prefer his flax in the form of linen cuttings.

Soundview Pulp Co. Files

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., July 15, 1936—The Soundview Pulp Company, San Francisco, Cal., has filed a registration statement with the Federal Securities and Exchange Commission covering $1,000,000 of serial notes, due serially from July 1, 1937 to July 1, 1942 and 20,925 shares of $5 par value capital stock.

According to the registration statement, no firm commitment has been made to purchase the notes but the company has contacted certain banks and institutional buyers which have indicated their willingness, it is stated, to purchase all the notes at par.

The stock is to be offered stockholders of the company through warrants at $50 a share on the basis of one share for each four shares held. All of the stock up to 6,000 shares not purchased by the stockholders are to be purchased by a group of stockholders at $50 a share. The net proceeds of the sale of the securities are to be applied to the construction of an additional unit to the company's pulp mill at Everett, Wash.

Soundview Pulp Co. Begins New Unit

A press dispatch from Everett, Wash., says that actual work on construction of a $2,100,000 unit of the Soundview Pulp Company's plant was accompanied by an announcement that the large new pulp mill of the Weyerhaeuser Timber Company produced its first pulp. Opening of this new addition to Everett's Industrial family means the employment of 250 men on three eight-hour shifts.

A new permanent Soundview warehouse 80x160 feet now is under contract and will be erected as soon as these changes have been made. The work now launched when completed, will establish Soundview as one of the largest single pulp manufacturing plants in the nation.

Production Ratio Report

(These statistics are based upon paper production reports to the American Paper and Pulp Association.)

COMPARATIVE MONTHLY SUMMARIES

Month	1936	1935	1934
January	76.1%	65.8%	.....
February	77.9%	70.0%	.....
March	76.0%	70.5%	.....
April	82.3%	70.0%	.....
May	81.6%	69.4%	.....
June	80.9%	72.3%	.....
July (b)	.....	67.8%	.....
August	.....	70.9%	.....
September (c)	.....	75.0%	59.4%
October	.....	75.6%	64.7%
November	.....	75.3%	61.7%
December (a)	.....	74.3%	62.1%
Year	.....	71.2%	.....

COMPARATIVE WEEKLY SUMMARIES

CURRENT WEEKS, 1936		CORRESPONDING WEEKS, 1935	
*June 6	81.8%	June 8	70.5%
*June 13	81.2%	June 15	71.7%
*June 20	80.7%	June 22	73.3%
*June 27	79.7%	June 29	73.6%
*July 4 (b)	83.1%	July 6 (b)	58.5%

The following statistics show the number of mills reporting by ratio groups:

	Number of Mills Reporting, Current Weeks				
Ratio Limits	June 6, 1936	June 13, 1936	June 20, 1936	June 27, 1936	July 4, 1936
0% to 50%	78	88	86	89	60
51% to 100%	257	245	243	234	169
Total Mills Reporting	335	333	329	323	229

* Subject to revision until all reports are received.
These data exclude (a)—Christmas Day, (b)—Fourth of July, (c)—Labor Day.

PAPERBOARD OPERATING RATIOS

According to reports from the National Paperboard Association, per cents of operation, based on "Inch-Hours," were as follows:

1934	1935	1935	1936
Sept. 62%	Jan. 61%	July 59%	Jan. 61%
Oct. 63%	Feb. 67%	Aug. 65%	Feb. 67%
Nov. 56%	Mar. 67%	Sept. 69%	Mar. 68%
Dec. (a) . 53%	Apr. 61%	Oct. 76%	Apr. 70%
	May 61%	Nov. 70%	May 68%
	June 65%	Dec. 60%	

Week ending June 6, 1936—64%
Week ending June 13, 1936—70%
Week ending June 20, 1936—70%
Week ending June 27, 1936—71%
Week ending July 4, 1936—65%

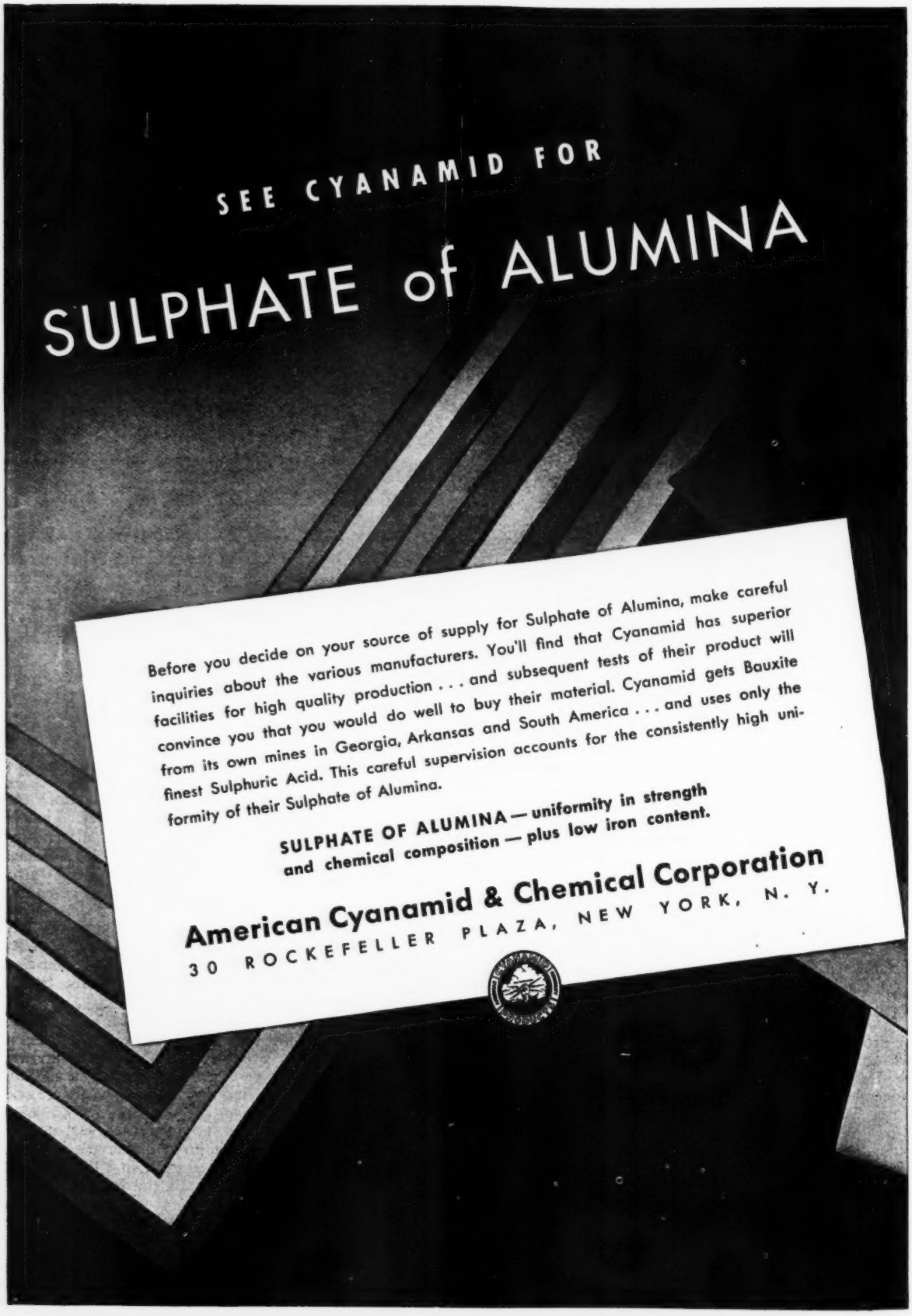
Make Rapid Progress on Crossett Mill

According to a press dispatch from Little Rock, Ark., even more rapid progress than had been expected has been made in construction of the new $4,000,000 pulp and paper mill now being erected at Crossett, Ark. Some difficulty was experienced soon after ground was broken early in March when List & Weatherly, pile-driving sub-contractors, found it hard to penetrate the ground in driving piling to form the sub-foundation. This difficulty, however, was overcome with heavier equipment, and by the end of April about 3,500 pieces of Wolmanized piling had been driven and approximately 10,000 cubic yards of concrete had been poured.

After the foundation was completed the steel and brick work started early this month with Carter Lyon, Memphis contractor, in charge of brick work. What is known as the "finishing room" is now nearing completion and buildings are beginning to spring up all over the 20-acre site to be occupied by the huge plant.

Plans are going forward here for the construction of 200 new residences which will house employees of the pulp and paper plant when completed early in 1937.

J. M. Kelley, superintendent of the Rust Engineering Company, Pittsburgh, Pa., general contractors for the plant, said recently he believed if favorable construction weather continued, that the plant would be ready for operation early next year.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Section of the
Technical Association of the Pulp and Paper Industry
Edited by Ronald G. Macdonald, Secretary

Black-Clawson Co. V. Centrifugal Engineering & Patents Corp.*

83 Fed. Rep. (2nd) 116

1. Patents

Operations which consist entirely of mechanical transactions, and which are only the peculiar functions of the respective machines which are constructed to perform them, are not "patentable processes." (Ed. Note.—For other definitions of "Patentable Process," see Words and Phrases.)

2. Patents

Operations which consist entirely of mechanical transactions, but which may be performed by hand or by any of several different mechanisms or machines, are "patentable processes."

3. Patents

Thomassen patent No. 1,536,988, for process for purifying paper pulp, *held* invalid because functional.

Appeal from the District Court of the United States for the Southern District of Ohio, Western Division; Robert R. Nevin Judge.

Patent suit by the Centrifugal Engineering and Patents Corporation against the Black-Clawson Company. From the decree, the defendant appeals.

Reversed and remanded, with instructions.

Drury W. Cooper, of New York City (Marechal & Noe and Greer Marechal, all of Dayton, Ohio, and J. B. Hayward, of New York City, on the brief), for appellant.

Harrison F. Lyman, of Boston, Mass. (H. L. Kirkpatrick and Fish, Richardson & Neave, all of Boston, Mass., and Allen & Allen, of Cincinnati, Ohio, on the brief), for appellee.

Before Hicks, Simons, and Allen, Circuit Judges.

Simons, Circuit Judge.

In a patent suit involving claims for a process for purifying paper pulp, the defense of non-infringement having been waived, or the fact of infringement conceded, validity was alone in issue. The patent is one to Thomassen, No. 1,536,988, granted May 5, 1925, upon an application filed February 16, 1924, and belongs to the appellee, plaintiff below. Overruling defenses based on anticipation, double use, and the functional character of the claims, the District Court held the patent valid, and from the decree granting injunction and awarding damages the defendant appeals.

In the paper making art, whether the stock is woodpulp, rags, or other fibrous material, it is desirable to remove impurities such as sand, grit, or metallic substances, and the higher the quality of the paper to be produced the greater the importance of complete elimination of impurities. This is particularly true in the manufacture of fine bond or writing papers, and in the manufacture of paper used in the electrical arts, where the presence of even minute metallic substances impairs its insulating character. The conventional method of removing impurities was by running the paper stock through a sand trap or grit retainer, the pulp having to flow over successive bars in a trough whereby the heavier impurities were separated from the stock by the force of gravity. Lighter impurities, such as knots, or improperly divided fibre, were removed by a strainer in the form of a fine meshed sieve.

Thomassen, a Dutch inventor, perceived the imperfections of the sand trap, in that it permitted many of the heavy impurities to pass because of the clogging of the material at the retarding bars, where it freed itself in comparitively large masses. He approached the problem from a different angle, and sought to substitute for the sand trap a device by which the heavier particles would be thrown from the paper pulp by centrifugal force without at the same time removing the fibres which themselves possess a higher specific gravity than the water in which they are suspended, and with provision for the removal of lighter impurities before the stock was permitted to continue its flow.

Thomassen's apparatus and process were in commercial use abroad when they were brought to the attention of manufacturers of paper and paper making machinery in the United States. The result was the importation of the apparatus and the application for and grant of the United States patent here in suit. Thomassen was allowed three claims, the first two for a process, and the third for an apparatus. The process claims are alone in suit, and are printed in the margin.[1] The explanation given by the

* Report of the Patents Committee of the Technical Association of the Pulp and Paper Industry, C. W. Rivise, Chairman.

[1] In a process for removing impurities from paper pulp or other fibrous material, continuously supplying the pulp to a centrifugal separator, rotating the separator at a speed sufficient to accumulate the pulp in a substantially cylindrical layer, collecting heavier impurities at the outside of the layer, collecting the lighter impurities at the inner surface of said layer and discharging the purified pulp from between the said impurities.

[1] In a process for removing impurities and knots or the like from paper pulp and other fibrous material, supplying the pulp continuously to a centrifugal separator, rotating the separator at a speed sufficient to cause the pulp to accumulate in a cylindrical layer and to cause the knots or the like and the heavy impurities to accumulate at the outer surface of the layer, retaining the said knots and impurities in the separator, retaining the lighter impurities at the internal surface of the layer of pulp, and discharging from the outer and inner surfaces of the said layer purified pulp free from impurities and knots or the like.

plaintiff for not suing upon the apparatus claim is that the infringer omitted from its machine the vanes in the drum for rotating the pulp which constituted one of its elements.

Centrifugal separators were old in the arts. They are described in many patents as designed to separate heavy and light impurities from a variety of materials other than paper pulp. Typical of these patents is Sanford 1,161,981, granted November 30, 1915. The Sanford structure in its elements, organization and manner of use, bears great similitude to the apparatus disclosed by Thomassen, and this gives rise to the contention that Thomassen's claims are invalid because merely disclosing a new use for a well-known apparatus, and that they must fail under the authority of the double use cases, which we do not pause to cite. The plaintiff's response is that Sanford and kindred disclosures do not suggest a process which accomplishes the elimination of impurities from a body of fibrous material and water while discharging together materials having different specific gravity, to wit, the fibres and the water in which they are suspended. None of the prior patents, it is urged, discloses an apparatus or suggests a method of purifying paper stock while leaving therein materials of different specific gravity, for the art represented by Sanford concerned itself only with removing all solids from liquids, or the separation of heavier from lighter liquids. We are not concerned, however, with a question of analogous use, for the gap between the paper and other arts has been bridged, and the record discloses three patents: The British patent to Kellner, No. 4960 of 1890; the Juel British patent, No. 2349 of 1891; and United States patent No. 813,984 to MacNaughton, 1906—each for a centrifugal separator for taking impurities out of paper pulp. It is somewhat significant that none of these patents was cited against Thomassen, and that he did not include them in the art which he proposed to advance. His description was limited to a recital of the advantages to be gained over the conventional sand trap.

The plaintiff's answer to these references is that neither Kellner nor Juel proposed a segregation of the heavier impurities from the pulp, but the mere concentration of them in the outer portion of the moving stream whereby they were carried off along with a continuous discharge of good pulp, so that both Kellner and Juel were wasteful and impractical, and never made any impression upon the paper making art. MacNaughton is distinguished from Thomassen as describing an apparatus which utilizes the force of gravity to clear the stock from impurities, and contains no suggestion of the method disclosed and invented by Thomassen. This leads to a consideration of what is asserted as the peculiar contribution of Thomassen to the art. The stock to be purified consists not of a homogeneous liquid, but a mixture of water and fibres. Thomassen substituted for gravity as the separating means of the prior art a powerful centrifugal force that causes the stock in the cylinder to rise vertically and assume the form of a substantially cylindrical vertical wall. It would be supposed that the degree of centrifugal force used in the Thomassen process would throw out the fibres as well as the heavy impurities from the stock. In fact this is precisely what happens in the beginning, for the first result of the exposure of the pulp to the degree of centrifugal force taught by the patent is the formation of a mat at the periphery of the cylinder, its thickness determined by the cylinder's inturned upper rim. Once that mat has been formed no more good fibres are thrown out from the mixture. These now pass from the machine with the water in which they are suspended. Only the impurities are cast out, the heavier impurities being thrown to the outside of the moving layer of pulp and lodged in the mat, while the lighter impurities pass upwardly and are detained and collected by a skimming ring. When the mat has become so coated on its surface that it no longer furnishes lodgment for impurities the machine must be shut down and cleansed.

It is conceded that the phenomenon that occurs in the formation of the mat is not apparent, but the speculation is advanced that probably during the first minute or two of operation the pulp remains in the machine for a relatively long period, since before any can pass out the periphery of the drum must be filled with pulp to the level, of the inturned upper edge of the drum, which takes some appreciable time, whereas after the mat has been formed and fills up this space the pulp passes through the machine in a thinner and more rapidly moving stream, and any given unit of pulp stays in the machine for a shorter period. So it may be the explanation for the anomalous action that whereas in the initial stage there is time enough for centrifugal force to act to separate out the fibres from the water thereafter the pulp remains in the machine too short a time for this to happen. In any event the formation of the mat automatically develops such conditions as to flow of stock as are required in order to prevent further loss from the water of good fibres while allowing the impurities to be thrown out and lodged in the mat. The mat having once been formed operates to purify the pulp of both heavy and light impurities without further loss of good fibre.

It is the building up by appropriate speed of rotation of the substantially cylindrical vertical wall of paper stock with the consequent formation of the fibrous mat that furnishes the vitalizing step of the Thomassen machine. But the defendant's response is that this cylindrical wall of pulp is but the inevitable result of the operation of the Thomassen machine. It is therefore urged that no patentable method is disclosed since it cannot be performed either by hand or by any other known apparatus, and that the claims are so broad as to exclude all other inventors who might accomplish the same result by means or methods unknown to Thomassen, and this leads us to what we consider the controlling point in the case—a determination as to whether or not the claims are functional. (1,2) It is now well settled that operations which consist entirely of mechanical transactions, and which are only the peculiar functions of the respective machines which are constructed to perform them, do not constitute processes which are patentable in the United States. Corning v. Burden, 15 How. 252, 267, 14 L. Ed. 683; Carnegie Steel Co. v. Cambria Iron Co., 185 U. S. 403, 425, 22 S. Ct. 698, 46 L. Ed. 968; Risdon Locomotive Works v. Medart, 158 U. S. 68, 15 S. Ct. 745, 39 L. Ed. 899; Holland Furniture Co. v. Perkins Glue Co., 277 U. S. 245, 257, 48 S. Ct. 474, 72 L. Ed. 868; Heidbrink v. McKesson, 290 F. 665 (C. C. A. 6); Walker, Patents (6th Ed.) 25. Though formerly debatable, it is also now settled that operations which consist entirely of mechanical transactions, but which may be performed by hand or by any of several different mechanisms or machines, are patentable as processes or arts. Expanded Metal Co. v. Bradford, 214 U. S. 366, 29 S. Ct. 652, 53 L. Ed. 1034; Walker, supra. The principal governing determination of whether claims are functional has been thus expressed by this court: "No doubt it is competent, when the circumstances permit it, for an inventor in describing a machine or apparatus which he has devised, to make a claim for a process which his patented device is capable of carrying out. But to entitle him to do this the process must be one capable of being carried out by other means than by the operation of his patented machine, and, unless such other means are known or within the reach of ordinary skill and judgment, the patentee is bound to point them out; for, unless the public are informed by what other means the process can be carried on, the process is to them nothing else than the operation of the machine—in other words, the exercise of its functions." American Lava Co.,

v. Steward (C. C. A.) 155 F. 731, 738. More concise is the statement, "But a patent may not issue to cover a process which involves nothing more than the operation of a piece of mechanism." Chisholm-Ryder Co. v. Buck, 65 F. (2d) 735, 736 (C. C. A. 4). There the evidence failed to indicate how the process might be carried out practicably in any independent fashion, and the process patent, merely stating the function or effect of the machine, was held invalid under the established rules.

(3) It is not suggested that the Thomassen method may be performed by hand, but a complete answer to the contention that the claims are functional is asserted to lie in the fact that the patented method is being carried out by other machines than the one shown in the patent, notably the machines made by the licensees operating under the patent—the Bird "centrifiner" and the Tolhurst machine, as well as the defendant's machine, which are said to differ from the machine shown in the patent as well as from one another. But all of these machines are centrifugal separators. It certainly cannot be the rule that claims escape the condemnation that they are functional by the mere reorganization of the patented machines, when the principle of operation remains identical. Cf. Smith Engineering Works v. Nordberg Mfg. Co., 68 F. (2d) 492 (C. C. A. 7). And a process which cannot be described otherwise than by describing the characteristic function of a machine is not validated by showing it may be carried on by another machine which has the same characteristic function in respect to the precise result to be attained. To say that the effect produced by one centrifuge is not functional because the same effect may be produced by another centrifuge is to beg the question. We think the claims here involved are clearly functional. They differ in no material respect from those considered in Heidbrink v. McKesson, supra, and yield to the same destructive analysis as those invalidated in Smith Engineering Works v. Nordberg Mfg. Co., supra.

Nor is it in our judgment any answer to the functional challenge to say that there is nothing inherent in the nature of a centrifugal machine which requires that it be operated at a speed sufficient to accumulate the pulp in a substantially cylindrical layer. One might make a similar observation in respect to any machine. A machine is designed to accomplish a certain result when operated at a certain speed. To describe a process in terms that tell what happens when the speed is attained, or conversely to determine appropriate speed by a certain result when reached, is to describe the operation of the machine. The claims here are clearly drafted to cover any means or method which any one may ever discover for producing the same result.

We have not overlooked the substantial evidence pointing to commercial acceptance of the Thomassen method or apparatus, but if all of the acts constituting the process are as we think they are, merely the results following the operation of a machine, and are necessarily restricted to machines identical with or employing the characteristic principle of the patented machine, the validity of the process claims cannot be upheld. The monopoly represented by the apparatus claim measures the extent lawfully obtainable. Smith Engineering Works v. Nordberg, supra.

Decree reversed, and the cause remanded to the District Court, with instructions to dismiss the bill.

Apex Paper Box Corp. Gets $15,000 Loan

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., July 15, 1936—During the month of May the Reconstruction Finance Corporation authorized a loan of $15,000 to the Apex Paper Box Corporation of Chicago, Ill.

Technical Association Papers Series XIX

The nineteenth annual volume of Technical Association Papers has been distributed to the members of the Technical Association of the Pulp and Paper Industry. Again its size of 600 pages reflects the growing volume of information that is being made available to the industry through the presentation of important papers at the association's national meetings.

So important have these meetings become that pulp and paper makers usually hold up publication of new information until they have an opportunity to appear on these programs, either in New York in February or at the fall meeting of the Association (to be held at Montreal, P. Q., this year from August 3 to 7). Although this tendency has resulted in rather congested meeting programs, it has been felt that all worthwhile papers offered for such occasions be accepted so that they may appear in Technical Association Papers and be readily available to the industry in a convenient reference manual.

Following the enthusiastic commendation received on the cloth-bound volume of last year the 1936 book is similarly bound and will prove to be serviceable for the hard usage to which this publication is put. An additional feature is the author index that accompanies the subject index, thereby providing greater facility for finding articles.

Although the articles published are of major importance, there are many who are more interested in the verbatim report of the discussions of these papers at the meetings.

The value of each paper is greatly enhanced by the comments made by individuals who were present to discuss them.

A large proportion of the papers presented at the meetings are given as the result of special invitations from committees whose job it is to know of the latest developments. These papers present the most authentic information in their respective fields.

As a result of the project system recently adopted by the association, its committees select subjects known to be of the greatest need of the industry and focus attention of these subjects until they finally are presented at the national meetings.

To assist the committees in collecting the information that they require, the association has provided a fund of a few thousand dollars to be used to finance work in private and institutional laboratories to obtain the data required. This material will be made available to the association members at future meetings and will be published in the association publications.

Non-members of TAPPI may obtain copies of Technical Association Papers from the Association's office, 122 E. 42nd street, New York, at $6 per copy.

Mysore Paper Mills To Build

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., July 15, 1936—The Mysore government has issued orders sanctioning the building of a mill for the manufacture of paper as a private enterprise, says a report from Trade Commissioner C. G. Isaacs, at Calcutta. The new mill, to be operated by the Mysore Paper Mills, Ltd., will manufacture both paper and pulp.

Eaton Paper Co. Changes Name

Stockholders of the Eaton Paper Company, Adams, Mass., have voted to change the name of the corporation to the Hoosic River Development Corporation.

TAPPI SECTION, PAGE 49

Evaluation of Drier Performance*

F. W. Adams[1] and A. E. Montgomery[2]

The results of a series of questionnaires studying the drying operation on a large number of machines emphasize the wide limits in production rate and evaporation rate existing in the industry. The value of this statistical analysis is two-fold; first, to enable the mill superintendent and engineer to determine the position of their machines in relation to other machines producing similar grades and second, to assist them to improve the operation of their machines.

Production is defined here as the pounds of paper produced per hour per square foot of circumferential drier surface covered by the width of the sheet, including all heated paper and felt driers in computing drier surface. In Fig. 1, production is plotted against saturation temperature of steam in the drier rolls for the various grades studied. These are classified as Board, Kraft, News, Writings, Absorbent and Tissue, Glassine and Greaseproof, and Miscellaneous. Under the Miscellaneous classification are included data for book, coating, manila waxing, cover, offset and hanging which did not appear to fall in any of the other classifications. Arbitrary straight lines representing average operation for each grade have been drawn through the points. Each grade has been fully discussed in its presentation in previous reports, so that this resumé will be restricted to a comparison between grades.

Board, absorbent, tissue, glassine and greaseproof papers are characterized by very low rates of production. Writings show low production at steam temperatures below 230 deg. F., whereas at higher temperatures they compare favorably with kraft. Kraft production falls in the center of the field, with the points clustering more closely about the average line than on any other grade. News has the highest rate of production, with no points as low as the average for kraft. Several of the miscellaneous papers show up favorably with news. The spread in production for all of the data collected is approximately tenfold.

It is interesting to note that glassine and greaseproof are dried at low temperatures, writings and news are dried up to about 250 deg. F., while board, kraft, absorbents and tissues go up as high as 300 deg. F. Available data on Yankee driers are mainly in the high temperature range and show production rates and evaporation rates several times those for multiple roll driers. They are not included in this discussion because of the widely different mechanism of drying which produces these high results.

Evaporation rates are of prime interest to a study of drying. In Fig. 2, evaporation, expressed as pounds of water evaporated per hour per square foot of circumferential drier surface covered by the width of the sheet has been plotted against steam temperature. Writing and glassine show the lowest evaporation of any of the grades studied. They also show the greatest spread between maximum and minimum. Rates of evaporation from absorbent papers and tissue, while scattering considerably, fall slightly above those for board. The results for board correlate reasonably well with temperature, giving rates comparable with writings and glassine in the lower temperature ranges, but not increasing with temperature as rapidly as these two latter grades. News shows the highest average evaporation with kraft falling between news and board.

The outstanding fact presented in these two figures is the wide scattering of rates of production and evaporation with a general overlapping between grades. Of secondary consideration, but nevertheless important, is the correlation of evaporation with steam temperature in the drier. How can these facts be utilized to the greatest advantage?

Practical Application

As far as the paper maker is concerned, evaporation is merely incidental to production and any improvement in operation must result in either increased production or higher quality of product.

It is evident from Figs. 1 and 2, that increased production may be obtained by increasing the steam pressure in the drier rolls. This will cause an increase in sheet temperature along with an increase in drying rate. On some grades of paper, high sheet temperatures and high rates of shrinkage during drying may damage quality and therefore limit drying rate, but in general these difficulties are more imaginary than real. The type of felt used on the driers and ventilating conditions may be adjusted to eliminate many of these difficulties. A simple method of analyzing drying data is readily available to every superintendent. The production records for any machine can be calculated to yield the pounds of paper produced per hour per square foot of circumferential dryer surface covered by the width of the sheet. Unpublished data collected on a large number of machines over an extended

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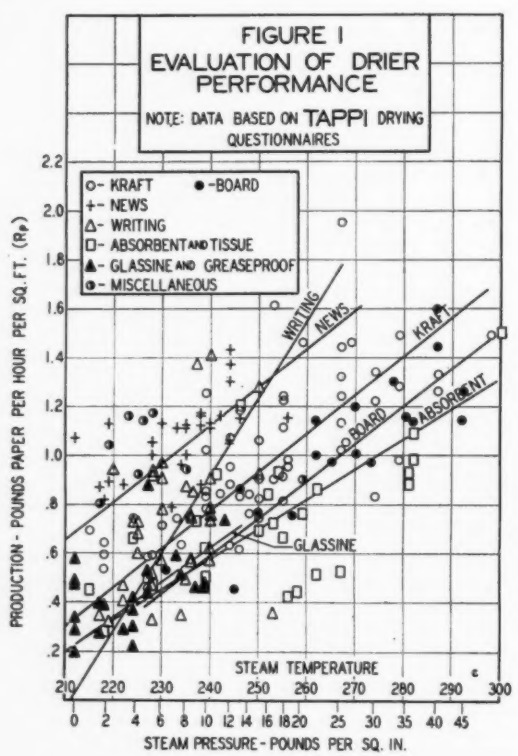


period[3] show that a spread of about two-fold between low and high is general. The highest production gives a measure of possible drying capacity of the machine and its ventilating equipment, although this may still be well below the maximum attainable. These data should therefore be analyzed further to discover the reasons for the variations so that production may be continuously maintained at the high point.

It is a rather general belief among paper makers that production must fall off with the heavier weights of a given grade of paper and that this falling off is due to the inability of the drier section to dry the paper. Frequently, this is not the case and it will be found that production can be maintained even on the heaviest weights. Sometimes it is found that wet end conditions are the real cause of this apparent inability to dry and a relatively small expenditure at the wet end will give the desired increase in capacity. In other cases inadequate ventilation yields the answer.

Mechanical defects in the supply of steam and the removal of condensate and air from the driers should, of course, be carefully checked by temperature measurements and remedied where found. The accurate measurement of the temperature of the drier surfaces has received considerable study, but no exact solution. However, relative measurements with existing instruments even though inaccurate, will yield valuable information which can be used to improve drier performance and increase production.

Allowable shrinkage rates and drying temperatures may retard production and evaporation rates particularly on certain specialties. These same papers are sometimes limited in their production rates by the speed required for formation or water-marking. Type of stock used in the furnish, conditions of hydration and type of felt used on the wet end and on the driers may all contribute to the drying problem.

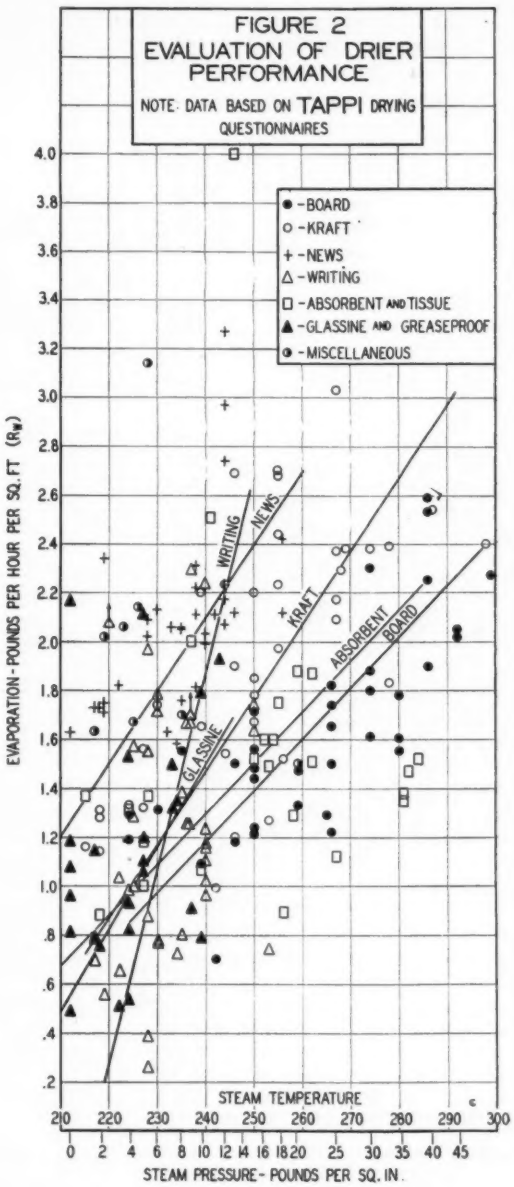
Analysis for moisture of the wet sheet entering the drier section will show if the felts and presses are operating properly or if they are the "bottle neck" in the machine. Moisture of the wet sheet affects steam consumption as well as drying rate. Therefore, a knowledge of steam flow to the machine is of great assistance in increasing production. Since outdoor air temperature and ventilation control in the machine room also affect steam consumption this criterion must not be followed blindly.

The results presented in Fig. 2, show that higher rates of evaporation are obtained at the higher temperatures. If machine production records show that lack of drying capacity is retarding production there are several possible solutions. Drier roll temperature may be raised by increasing steam pressure in the supply header. The consequent higher condensation rate may require modification of the steam supply system and of the condensate and air removal system. The higher evaporation may in turn require additional ventilating air both for supply and exhaust.

Technical Data Awaited

Overdrying is another condition which may decrease drying capacity, hence production. A quick, accurate method of checking this is desirable and the industry is awaiting with interest the publication of technical data proving how this may be accomplished. The correct moisture leaving the machine will help drying rate, physical tests and finish. The humidity conditions around the driers and calender stacks should be maintained at a point where the paper will be delivered to the reel at the correct moisture content. For some finishes it may be desirable to effect a regain of moisture before calendering by suitable humidity control after leaving the driers.

[3] F. C. Clark, private communication.



What is Good Average as Fair Practice

Insofar as the results presented encourage the papermaker to analyze his particular situation the purpose of this study has been accomplished; namely, to show him what may be considered good, average or poor practice for his grade. The wide variety of operating conditions encountered in practice limits the analysis of these data to yield quantitative information regarding the effect of operating variables on the evaporation rate, to the effect of steam temperature. Further, more exact knowledge of the effect of machine speed, basis weight, ventilating conditions and moisture in the sheet must be obtained under accurately controlled conditions on one machine. There is no question, but that this additional knowledge of the mechanism of drying would be extremely valuable

in design and operation although the cost of procuring it would be appreciable. Also, the development of suitable devices for measuring accurately the surface temperature of drier rolls and the moisture content of a moving sheet offers opportunities which can be of inestimable value to the study of drying.

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The Distribution of Blow Heat in Alkaline Pulping*

By George H. Tomlinson[1] and H. K. Collinge[2]

Your Alkaline Pulping Committee has already investigated the heat input into the digester. This was reported at the last annual meeting. Subsequently it was decided that a further study should be made for the purpose of tracing the distribution and possible utilization of this heat in the succeeding process steps.

The quantity of heat which is released during a digester blow will necessarily vary from mill to mill, and will depend primarily upon the cooking conditions employed. The economic availability of the blow heat will also vary; and this can only be determined, in any particular mill, by making a complete heat balance of the entire plant operation. In view of this, we have been asked to present such a balance covering the plant of the Canada Paper Company, at Windsor Mills, P. Q.

Before making a heat balance, a base temperature must be chosen. For the purpose of the following calculations, a base temperature of 55 deg. F. has been selected, on the assumption that this represents a normal average atmospheric temperature.

Each of the digesters at Windsor Mills has a nominal capacity of four tons of sulphate pulp, and is equipped with a circulating system, together with indirect heating. When blowing, black liquor is injected to ensure complete discharge of the pulp. This injection, however, is discontinued when the digester pressure has dropped to 30 pounds, which corresponds to a steam temperature of 275 deg. F. A blow tank receives the pulp and liquor, and the washing is performed on a rotary vacuum filter.

The Distribution of Blow Heat

At the end of a blow, the heat is distributed between the pulp and liquor, the liberated steam, and the blow tank. In order to calculate this distribution, we assumed:

(1) That the steam which is "flashed" is saturated, and is at a temperature of 212 deg. F.

(2) That a liquor and pulp immediately after the release of steam, will have a temperature of 215 deg. F., this representing the normal boiling point of water, plus a 3 degrees rise due to the solids dissolved in the liquor.

(3) That the temperature of the digester shell will drop to 275 deg. F., during the blow. The heat contained in the digester insulation is neglected, since presumably there is insufficient time to permit of its conduction into the digester contents.

(4) That the temperature of the blow tank is 120 deg. F. at the beginning of the blow, and that it is heated to 215 deg F. during the blow.

In addition to this, the following data were assembled:

A. The weight and specific heat of black liquor discharged. This was calculated from the digester charge as follows:

Lignin, etc., from chips	8,500	pounds
Moisture introduced with the chips	8,460	"
Cooking liquor (white)	32,900	"
Black liquor	18,600	"
Condensed direct steam	1,800	"
Total	70,300	pounds
Less relief vapors	200	"
Total weight of black liquor discharged	70,100	pounds
Specific heat of liquor	0.86	

B. The weight and specific heat of the oven dry pulp discharged.

Weight of pulp	7,200	pounds
Specific heat of pulp	0.32	

C. The weight and specific heat of digester shell and fittings.

Weight of shell and fittings	50,000	pounds
Specific heat	0.12	

D. The weight and specific heat of the blow tank.

Weight of blow tank	15,000	pounds
Specific heat	0.12	

E. The temperature of the digester charge at the moment when the blow is commenced.

Temperature	350	deg. F.

F. The weight, specific heat and temperature of dilute liquor injected during the blow.

Weight of injection liquor	16,000	pounds
Specific heat	0.91	
Temperature	158	deg. F.

From this information, the following calculations were made:

1. Heat in black liquor 70,100 x 0.86 x (350-55)	17,800,000	B.t.u.
2. Heat in pulp 7,200 x 0.32 x (350-55)	680,000	B.t.u.
3. Add heat from digester shell 50,000 x 0.12 x (350-275)	450,000	B.t.u.
4. Total heat theoretically available for recovery, per blow	18,930,000	B.t.u.
5. *Add* heat in liquor injected during blowing 16,000 x 0.91 x (158-55)	1,500,000	B.t.u.

* Presented at the Annual Meeting of the Technical Association of the Pulp and Paper Industry, Waldorf-Astoria Hotel, New York, N. Y., February 17 to 20, 1936.

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[2] Howard Smith Paper Mills, Ltd.

6. Total heat in material at blow valve 20,430,000 B.t.u.
7. *Less* heat required to raise the temperature of blow tank
   15,000 x 0.12 x (215-120) 170,000 B.t.u.
8. Net heat in material at blow tank 20,260,000 B.t.u.
9. The total weight of black liquor entering the blow tank, represented by A+ F is :—
   70,100 + 16,000 = 86,100 pounds
   The specific heat is calculated to be 0.87
   The sensible heat required to maintain the blown material at 215 degrees is:—
10. Black liquor
    86,100 x 0.87 x (215-55) 11,980,000 B.t.u.
11. Pulp
    7,200 x 0.32 x (215-55) 370,000 B.t.u.
12. Total 12,350,000 B.t.u.

The net heat present in the blown material is in excess of this quantity. This excess heat is converted into latent heat in the flashed steam.

Net heat in material in blow tank (8)	20,260,000 B.t.u.
Heat to maintain blown material at 215 deg. (12)	12,350,000 B.t.u.

13. Excess appearing as *latent* heat 7,910,000 B.t.u.

The latent heat of steam at 212 deg. F. is 972 B.t.u. per pound. Therefore the weight of steam which must be generated is:—

14. $\frac{7,910,000}{972}$ = 8,150 pounds
15. This steam is obtained by evaporation of some of the water in the black liquor so that the net amount of liquor left after the blow flash (9-14) is:—
    86,100—8,150 = 77,950 pounds
    The specific heat of this liquor is calculated to be 0.855.
    The total heat (measured above 55 deg. F.) in steam at 212 deg. F. is 1129 B.t.u. per pound so that the net heat in material in blow tank is distributed as follows:—
16. In flashed steam (from 14)
    8,150 x 1129 9,200,000
17. In black liquor (from 15)
    77,950 x 0.855 x (215-55) 10,690,000
18. In pulp (from B)
    7,200 x 0.32 x (215-55) 370,000
    20,260,000

All of the net heat in the blow tank is thus accounted for, and the theoretically available heat is distributed as follows:—

In the liquor and pulp	50.5 per cent
In the steam	48.6 per cent
Loss	0.9 per cent

Application of Blow Heat

Part of the heat in the black liquor and pulp is unavoidably lost by radiation and evaporation. The rest is consumed in the evaporators and in the hot dilute black liquor which is part of the digester charge.

The heat in the flashed steam can be recovered in various ways and used to provide hot water for pulp washing, for the causticizing plant and for the boiler feed.

The actual distribution of heat recovered from blows at Windsor Mills is shown in the following calculations. The heat in the pulp and black liquor is utilized in the operation of the evaporators and digesters. These are of the usual design and require no description. The operation of the vacuum washer causes a definite loss by evaporation but the heat in the vapour leaving the black liquor raises the temperature of the wet vacuum pump sealing water and is eventually recovered, together with the heat in the flashed steam. The blow steam is recovered in auxiliary equipment, comprising a direct contact condenser, a storage tank for the hot condensing water and condensate, and a liquid to liquid heat exchanger for heating fresh water for pulp washing. Foul condensate from the evaporator, together with the vacuum pump sealing water and some water from the evaporator hot well, is used in the condenser. Some of the heated foul condensing water is consumed in the causticizing plant, the remainder passing through the heat exchanger to the sewer.

The additional information required for completing these calculations was:—

G. Temperature and quantity of wash water added to black liquor during pulp washing as calculated from drop in density.
   Weight of water 40,800 pounds per cook.
   Temperature of water 143 deg. F.

H. Temperature of dilute liquor leaving washers or diffusers.
   Temperature of dilute liquor 158 deg. F.

I. Temperature and quantity of dilute black liquor used in digester charge.
   Weight of dilute black liquor 18,600 lbs. per cook
   Temperature 158 deg. F.

K. Temperature and quantities of the recovered hot water and of water lost from the system.

From evaporators and washer vacuum pump	88,000 lbs. per cook
Temperature	122 deg. F.
Used in causticizing plant	32,000 lbs. per cook
Temperature	187 deg. F.
Rejected to sewer from heat exchangers	62,000 lbs. per cook
Temperature	110 deg. F.
*Used in pulp washing	45,800 lbs.
Temperature	143 deg. F.

* Note: This constitutes only that portion of the water used for pulp washing which has been heated by the blow.

Heat in Black Liquor

19. The total weight of dilute black liquor flowing from the pulp washers is (per cook):—(15) x (G)
    77,950 x 40,800 = 118,750 pounds
    Calculated specific heat 0.91
20. Total heat content of liquor leaving washer
    118,750 x 0.91 x (158-55) 11,050,000 B.t.u.
21. Heat in wash water
    40,800 x 1.00 (143-55) 3,590,000 B.t.u.
    Heat in pulp and liquor at blow tank (17 and 18) 11,060,000 B.t.u.

22. Total to be accounted for 14,650,000 B.t.u.
Less total heat in black liquor leaving washers (20) 11,050,000 B.t.u.

23. Losses by radiation, evaporation, etc. amount to 3,600,000 B.t.u.

The quantity of loss due to evaporation in the pulp washer was measured and found to be 960,000 B.t.u. per blow, leaving an unaccounted radiation and evaporation loss of:—

3,600,000—960,000 2,640,000 B.t.u

The total heat (11,050,000 B.t.u.) in the dilute liquor from the washer is used as follows:—

25. In digester charge
18,600 x 0.91 x (158-55) 1,730,000 B.t.u.
26. Returned to blow tank in injection liquor
16,000 x 0.91 x (158-55) 1,490,000 B.t.u.
27. Useful heat in evaporator liquor
84,150 x 0.91 x (158-55) 7,830,000 B.t.u.

Total (20) 11,050,000 B.t.u.

Heat in Blow Steam

Heat in blow steam (16) 9,200,000 B.t.u.
28. Heat in water used for condensing blow steam
88,000 x 1.00 x (122-55) 5,900,000 B.t.u.

29. Total heat in blow steam recovery system 15,100,000 B.t.u.

30. Heat recovered and used in causticizing
32,000 x 1.00 x (187-55) 4,230,000 B.t.u.
31. Heat recovered and used in pulp washing
45,800 x 1.00 x (143-55) 4,030,000 B.t.u.

32. Total heat recovered 8,260,000 B.t.u.

33. Losses by difference (29-32) 6,840,000 B.t.u.
34. Loss in foul water rejected to sewer
62,000 x 1.00 x (110-55) 3,410,000 B.t.u.

35. Unaccounted losses, as radiation, uncondensed steam etc. 3,430,000 B.t.u.

The final distribution of the blow heat is as follows:—

Usefully Absorbed

In evaporators	30.1 per cent
In digesters	6.6 per cent
In causticizing	14.6 per cent
In pulp washing	14.0 per cent
Total:	65.3 per cent

Lost

As uncondensed steam etc.	11.9 per cent
In water to sewer	11.8 per cent
By radiation from liquor system	10.1 per cent
By radiation from blow tank	0.9 per cent
Total:	34.7 per cent

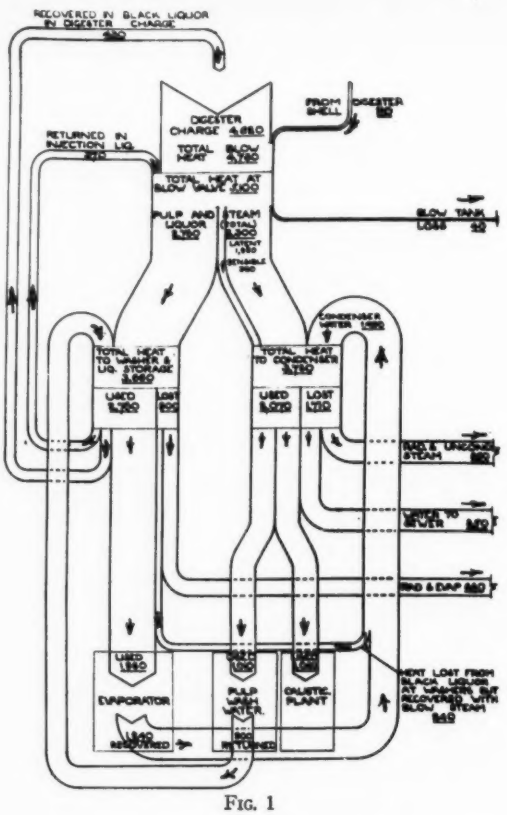


FIG. 1

The calculated figures apply only to Windsor Mills, but if sufficient information is available, a similar balance can, of course, be prepared for any similar operation.

Fig. 1 graphically represents this heat flow and distribution the heat quantities having been re-calculated as pounds of equivalent steam per ton of pulp.

The hot condensate produced in this system of blow steam recovery is unsuitable for pulp washing on account of its odor. It is for this reason that a heat exchanger is used to furnish the pulp wash water supply.

The production at Windsor Mills has recently been increased with the result that our blow steam recovery is now somewhat less efficient than that indicated by the calculations presented in this paper. The system however, is being revamped for the purpose of meeting this condition, and also of avoiding some of the heat losses disclosed by this investigation. On completion of this change, the losses should be reduced to about 15%, these being distributed as follows:—

As uncondensed steam etc.	1.0 per cent
In water to sewer.	3.0 per cent
By radiation from liquor system.	10.0 per cent
By radiation from blow tank	0.9 per cent
Total:	14.9 per cent

The additional heat recovered will be used to supplement our pulp wash water supply.

Theoretically, it may be possible to utilize a somewhat larger percentage than we have indicated. In practice, however, certain losses, principally from radiation, are unavoidable, and for this reason there is necessarily a limit to the recovery which can be economically realized.

Pulp and Paper Industry Literature Review

Abstracts of Articles and Patents Compiled by the Abstracts and Bibliography Committee of the Technical Association of the Pulp and Paper Industry, A. Papineau-Couture, John F. Ohlson, C. E. Peterson and Clarence J. West, Chairman

Copies of United States Patents can be obtained from the United States Patent Office, Washington, D. C., for 10 cents each. Send currency, not stamps.

Machinery

Suction Press Roll. John F. Joseph and Earl E. Berry, assignors to Beloit Iron Works. Brit. pat. 422,959 (Jan. 18, 1935).—The suction-roll shell is provided with a perforated rubber covering, the outer part being softer than that next to the shell.—A.P.-C.

Cylinder Machine. Etablishements Perrot et Aubertin. Fr. pat. 780,777 (Jan. 25, 1934).—An expansible cylinder mold is used, having an endless wire covering that can be easily and quickly changed.—A.P.-C.

Tearing Device for Webs of Pulp. O. Eidsaether, Greaker, Norway. Finn. pat. 16,234 (Jan. 13, 1934).—J. F. O.

Packing for Cylinder Moulds. Wochbl. Papierfabr. 66, No. 8: 149 (Feb. 23, 1935).—Short discussion of the best means for packing cylinder moulds and keeping them tight.—J. F. O.

A New Conveyance for Bulky Materials. Peter Stahl. Wochbl. Papierfabr. 66, No. 22: 421-22 (June 1, 1935).—Description of a conveyance for bulky materials, recently patented, which can transport materials around curves and winding passage ways.—J. F. O.

Suction Box Cover. James W. Hemphill assignor to Johns-Manville Corp. U. S. pat. 2,010,150 (Aug. 6, 1935).—The cover is made of asbestos fiber and a binder comprising rubber or polymerized chloroprene compound and a lubricant such as graphite or castor oil.—A.P.-C.

Method of Manufacturing Suction Rolls and Assembly for Use Therein. George R. Keltie assignor to American Wringer Co., Inc. U. S. pat. 2,009,848 (July 30, 1935).—In re-covering rubber-covered suction-roll shells, after applying the rubber and the vulcanizing tape in the usual manner, headed pins of sufficient length to pass completely through the covering are driven through it through the holes in the metal shell, the pins being inserted from inside the shell. After vulcanizing the pins are readily knocked inwards.—A.P.-C.

Washing Device Comprising Shower Pipes. John Paramor and Harry Suckling, assignors to The Watford Engineering Works, Ltd. U. S. pat. 1,997,651 (April 16, 1935).—Paper machine shower pipes, etc., are provided with a suitable cleaning device that is rotatable inside the pipe to clean the holes in the pipe.—A.P.-C.

Watermarking. William P. McCorkindale, assignor of one-half to The McCorkindale Co. and of one-half to American Writing Paper Co. U. S. pat. 2,009,185 (July 23, 1935).—The sheet is formed by depositing the stock by suction on a flat paper making screen. Watermarking elements are attached to the screen (conveniently by suitable magnetic devices), that may produce watermarks that are either lighter or darker than the remainder of the sheet, or which may release coloring matter as the sheet is being formed.—A.P.-C.

Doctor. Saeming Eriksen Akre, assignor to Frederick William Vickery. U. S. pat. 2,007,418 (July 9, 1935).—The doctor blade is carried between yielding supporting members which, in part of their width, are spaced apart by much more than the thickness of the blade and approach each other at their free edges between which the blade is gripped.—A.P.-C.

Paper Making. William P. McCorkindale, assignor of one-half to The McCorkindale Co. and one-half to American Writing Paper Co. U. S. pat. 2,009,184 (July 23, 1935).—A paper-forming platen is mounted to move from a position over a stuff vat to a position over a receiving member. The lower surface of the platen is provided with a paper-making screen of appropriate shape, and when it comes over and in contact with the stock in the vat, the platen is automatically connected to a suction pump. When the sheet has been formed the platen is moved to deposit it on the receiving member where it is picked up by a carrier and passed through a drier.—A.P.-C.

Cylinder Paper Machine. Samuel V. Minskey, Leroy T. Foley and Henry Leopold. U. S. pat. 2,001,208 (May 14, 1935).—A main feed box is provided on one side of the "circle" or stock vat for supplying a quiet, even flow of stock to the vat so as to create a quiescent pond of stock around the cylinder. A second feed box is provided at the other side of the vat, through which the dense fibers which collect in the bottom of the vat are delivered against the cylinder mold as it enters into the vat. A filter of dense fibers is thus formed on the cylinder, thereby preventing to a large extent the passage of finer fibers through the cylinder. An automatic regulator is provided for controlling white water discharge by the stock level in the vat pond.—A.P.-C.

Cylinder Paper Machine. Jacob Edge, assignor to Downingtown Manufacturing Co. U. S. pat. 2,005,839 (June 25, 1935).—The vat is constructed so that the roll can be operated at high speed and the stock delivered under such head and in such manner that it travels about the periphery of the mold in the forming section at substantially the same speed as the mold. A portion of the wall of the vat forming the passage for the stock consists of adjustable plates permitting the passage to be regulated during the operation of the machine.—A.P.-C.

Vertically Adjustable Tables for Fourdrinier Machines. Lawrence L. Lapeyrouse. U. S. pat. 2,003,753, (June 4, 1935).—This is an improvement on the construction described in Lapeyrouse's U. S. pat. 1,853,625, of April 12, 1932. It provides means for raising the rear section of the table at either or both ends, thus making it possible to raise one end of the second section of the table more than the other if desired or to get any angle of the two sections of the table that it is required to get.—A.P.-C.

Paper Making Machine. Earl E. Berry, assignor to Beloit Iron Works. U. S. pat. 2,005,929 (June 25, 1935).—According to Berry and Robert's U. S. pat. 1,898,611, of Feb. 21, 1933, the web on the forming wire is picked up by a carrier felt as it passes over the couch roll, the carrier felt being brought into contact with the web by means of an upper couch roll, and a suction roll being located under the carrier felt at the point where it contacts the drying roll. According to the present invention an additional suction roll is used and is located after the web

passes over the couch end of the forming wire, where the web is suspended from the wire.—A.P.-C.

Sheet Formation on Fourdrinier Wire. M. M. Rubin. Technical Association Papers 18: 400-404 (1935); Paper Trade J. 101, No. 6; 39-43 (Aug. 8, 1935).—Any basic principles for sheet formation on the fourdrinier wire at medium and high speeds should include a consideration of the following: (1) the chemical characteristics of all raw materials composing the beater furnish, (2) the effect of processing on these materials, and (3) tabulation and control of interrelated dependent and independent paper machine operating variables.—A.P.-C.

Regulating the Consistency of Paper Pulp. Walther Voith, and Hanns Voith, trading as the firm J. M. Voith. Brit. pat. 423,646 (Feb. 5, 1935).—The fiber content of pulp is regulated by a float, etc., controlling a dilution-water slide valve, a metering device, *e.g.*, a bucket-wheel, located between the water-supply point and an outlet that gives a constant flow of diluted pulp.—A.P.-C.

Improved Equipment for Tissue. J. E. Goodwillie. Paper Mill 58, No. 23: 66-70 (June 8, 1935).—A brief discussion of modern tissue paper machines.—A.P.-C.

Felting, Watermarking and Coloring Paper Pulp. Thomas S. F. Melvin. Brit. pat. 426,070 (March 27, 1935).—Felting of fibers on a fourdrinier or like machine is aided by rotary disks concentric with and at an angle, *e.g.*, of 70°, with a shaft so that the lower parts of the disks move in the pulp stream, where the pulp is sufficiently drained to retain deflections imparted thereto but not so drained that an uneven surface results. The disks may be used in place of the dandy roll with the edges touching the pulp to produce a watermark effect. To produce variegated paper, color may be fed from a trough to a cloth the opposite side of which trains rearwardly over the disks.—A.P.-C.

The 1935 Fourdrinier Paper Machine. P. H. Tigwell. Paper Mill 58, No. 22: 14-16 (June 1, 1935).—An outline of the features of a modern fourdrinier machine from the head box to the presses.—A.P.-C.

Water Doctors, Etc., for Paper Making Machines. Ernest E. Bray and The Watford Engineering Works, Ltd. Brit. pat. 425,224 (May 6, 1935).—A doctor etc., supplying water to the surfaces of cylinders, calender rolls, etc., comprises an upper delivery channel tapering toward the front end or roll and with a liquid overflow at the back, and a well, below the back of the channel, with inlet-apertures for water, etc.—A.P.-C.

Efficiency Formula for Worm Gears Verified by Imput-Output Test. Anon. Paper Trade J. 101, No. 2: 21-22 (July 11, 1935).—The following formulas are given for calculating the efficiency of a worm gear, E being the efficiency, L the helix angle and I the angle of friction, equal to the angle whose tangent is the coefficient of friction: with the worm driving, $E=\tan L/\tan(L-I)$; with the wheel driving, $E=\tan(L-I)/\tan L$. Results of tests are given showing close agreement with the values calculated from these formulas.—A.P.-C.

Modern Gears in the Paper Industry. Anon. Paper Trade J. 101, No. 1: 24-28 (July 4, 1935).—A general discussion of various types of modern speed-reducing gears and their respective merits.—A.P.-C.

The Measurement of Flow in Pipes. O. Brauns. Pulp Paper Can. 36: 375-378 (July, 1935).—A very brief outline of the theory and application of industrial methods for the measurement of flows in pipes by orifices.—A.P.-C.

Arrangement for Tilting Wire Cloths of Paper Making Machines. David Russell, James R. Happer and John D. Law. Brit. pat. 426,274 (April 1, 1935).—A frame comprising beams supporting the wire cloth, etc., is pivoted about an axis coincident with that of the lower couch roll and is raised at the breast-roll and by means supported from uprights. The flow box, which is carried by the frame, is in two parts connected by a pipe and supplied through a pipe, the arrangement allowing height adjustment which may be made while the machine is in operation without affecting the pulp flow.—A.P.-C.

Laid Marks, Watermarks and other Markings. G. M. Papeterie 57: 642-646, 686-690, 733-737 (July 25, Aug. 10, 25, 1935).—A discussion and description of modern methods of marking papers.—A.P.-C.

Machine for the Manufacture of Five-Ply Corrugated Board. Papier-Ztg. 60, No. 54:936 (July 6, 1935).—A description is given of the installation which was constructed by a German firm for an English order. It comprises corrugating and pasting machines, longitudinal and cross cutters and a layboy.—C.J.W.

First Paper Machine in Norway to be Completely Equipped with Ball and Roller Bearings. J. Lunke. Papir-J. 23, no. 11:115-116 (June 15, 1935).—A description of the gradual replacement of the original sliding bearings on the paper machine of the Norwegian paper mill at Svelvik by ball and roller bearings which resulted in a 20% speed increase.—C.J.W.

Nomy Bearing in the Pulp and Paper Industry. W. Schmidt. Svensk Pappers-Tidn. 38, no. 9:295-298 (May 15, 1935).—The suitability of the Nomy bearing for different applications in the pulp and paper industry is discussed and illustrated.—C.J.W.

Shredder. E. & M. Lamort Fils, Fr. pat. 784,117 (April 6, 1934).—Bales of pulp are brought by means of an endless conveyor against a series of rapidly rotating parallel shafts equipped with (preferably triangular) pins. A suitable guard is provided to prevent the bales from coming too close to the shafts and jamming them. The conveyor carrying the bales is given a slight reciprocating motion in a direction transverse to the shafts.—A.P.-C.

Modern Cutters. Zellstoff Papier 15, No. 7:287-89 (July, 1935).—Detailed description of a Haubold cutter and layboy.—J.F.O.

Winder. James A. Cameron, assignor to Cameron Machine Co. U. S. pat. 2,012,118 (Aug. 20, 1935).—The invention provides a two-drum surface winder designed to produce "dense" paper rolls in which the convolutions are not so "tense" as to render the paper liable to tearing or cracking. The front winding drum is positively driven at all times, while the rear drum is normally driven by frictional contact with the paper. In order to ensure the production of a tightly-wound core, the rear winding drum is given a "boost" at the beginning of the winding operation.—A.P.-C.

Paper Metering, Cutting and Reeling. Charles A. Fourness and Charles M. Pearson, assignors to Paper Patents Co. U. S. pat. 2,006,499 (July 2, 1935).—The invention provides a machine whereby the lengths of paper web wound on a reel are automatically measured and cut into lengths which are wound on relatively independent reels. A twin reeling arrangement is provided, and the web is automatically transferred from one reel to the other.—A.P.-C.

Apparatus for Splicing Strips of Paper. William Townley, assignor to United States Gypsum Co. U. S. pat. 2,002,554 (May 28, 1935).—The free ends of sheets to be spliced are caused to overlap a considerable distance, and semicircular slits are punched through both sheets at the overlap by means of suitable rotary cutters. The tongues thus formed are depressed below the plane of the sheets and upon applying tension the tongues of the upper sheet are moved to catch under the slit edge in the lower sheet and thus interlock the two sheets securely.—A.P.-C.

Slitting Mechanism for Paper Making Machines. Charles W. Valentine assignor to The Bagley and Sewall Co. U. S. pat. 2,003,404 (June 4, 1935).—The web is cut by single-blade cutters (as distinguished from shear-cut cutters) as it passes over a slotted table, the edges of the slots co-operating with the slitting blade to produce a clean cut. Each cutter is driven by an individual motor, and the cutter may be controlled either as a group or individually. —A.P.-C.

Valve for Stock Lines. A. Grannenfelt, Helsingfors. Finn. pat. 16,127 (Sept. 2, 1933).—The disc of the valve is provided with a sharp edge so that it cuts any fibers which would tend to prevent a tight fit.—J.F.O.

Shake Device, Especially for Machines Used in the Pulp and Paper and Similar Industries. Maschinenfabrik Aktiengesellschaft, Kothen, Ger. pat. 611,586 (June 18, 1930).—J.F.O.

Stock Inlet for Fourdrinier Machines. Otto Schmidt, Oberleschen. Ger. pat. 611,585 (July 28, 1932).—The lip of the inlet is curved so that the stock comes on the wire tangentially to the breast roll.—J.F.O.

Moistening Device for Paper and Stock Webs. Firma Arno Unger, Crimmitschau. Ger. pat. 611,587 (May 3, 1933).—The brush roll revolves partially submerged in water; the depth regulated according to the amount of moistening desired.—J.F.O.

Production of Water on the Cylinder Machine, the Fourdrinier, Dryer Cylinder, Calenders and Smoothing Rolls. H. Postl. Wochbl. Papierfabr. 66, No. 17:321-22 (April 27, 1935).—The origin of the dandy roll and the methods for water-marking paper at various points throughout its manufacture are briefly described.—J.F.O.

Device for the Separation of Solid Particles from Liquids and Gases. T. C. Bieth, Alsten. Swed. pat. 82,272 (Aug. 17, 1933).—A container so designed that there is a circular motion imparted to the liquid or gas.—J.F.O.

Device for the Atomizing and Vaporizing of Liquids in a Gaseous Medium. C. E. Hager and F. N. Svavar, Stockholm. Swed. pat. 82,279 (Jan. 16, 1933).—J.F.O.

Variable-Speed Turbines for Driving Paper Machines. E. L. Richardson. Paper Industry 17:168-169 (June, 1935)—A brief discussion of their merits.—A.P.-C.

New Drive for Top Press Roll. Charles L. Ellis. Paper Mill 58, no. 23; 72, 82 (June 8, 1935).—A brief description of the Downington top press roll drive and discussion of its merits.—A. P.-C.

The Drive for a Modern Paper Machine. F. M. Roberts. Paper Trade J. 101, No. 9: 31-34 (Aug. 29, 1935).—A discussion of the latest type of General Electric Co. sectional drive for paper machines, showing the considerations upon which the design of this drive is based and explaining how constant operating speed, constant relative speed of the sections, and uniform acceleration and deceleration are made possible.—A. P.-C.

Individual Motors for Wet End Sections of Paper Machines. R. R. Baker. Paper Mill 58, No. 23:84-90 (June 8, 1935).—A description and discussion of the design, operation and merits of sectionalized electric drive for the wet end of multicylinder board machines.—A. P.-C.

Part Played by Pumps in Pulp and Paper Mills. William A. Gargan. Paper Mill 58, No. 27: 13-20 (July 6, 1935).—A general discussion of their function, importance and selection for different services in the pulp and paper mill.—A. P.-C.

Power House

Photo-Electric Cells and Their Industrial Applications. R. C. Walker. World's Paper Trade Rev. 104: 104, 106, 146, 148 (July 12, 1935).—A brief outline of some of the more important industrial applications of photo-electric cells, more particularly those of interest to the paper industry.—A. P.-C.

Boiler Plant Faults and Deficiencies: Their Diagnosis and Cure. N. Jones. Paper Maker & Brit. Paper Trade J. 90: TS107-110 (July, 1935).—Various faults that have been encountered by the author are described, together with the means used for overcoming them.—A. P.-C.

Steam Accumulators in Paper Mills. D. K. Dean and G. M. Cameron. Paper Trade J. 101, No. 9: 35-41 (Aug. 29, 1935).—An explanation of the principle of the Ruths steam storage system and its advantages, of the use of the hot water accumulator, and of the use of the accumulator for process heat, acid plant heat, and heat from internal combustion engines.—A. P.-C.

Steam in the Pulp and Paper Mill. William R. Gibson. Pacific Pulp Paper Ind. 9, No. 8: 13-14 (Aug. 1935). —Suggestions are given on how to cut the cost or economize on the quantity of steam necessary for the production or saleable pulp or paper.—A. P.-C.

The Treatment of Water for the Paper Making Industry. A. H. Waddington and R. Clark. World's Pa-Paper Trade Rev. 104: 183-188, 226, 228, 339-344, 386, 388 (July 19, Aug. 2, 1935).—A discussion of the importance and manner of carrying out water purification for paper mill processes, with a brief description of some of the more important developments of the modern water purification plant.—A. P.-C.

Sharpening or Grinding Tools and Apparatus Used in a Paper Mill. Eugen Schulte Wochbl. Papierfabr. 66, No. 30: 570-72 (July 27, 1935).—The author tells of the composition of the grind stones necessary for grinding different tools and apparatus throughout a paper mill; beginning with the stone required for the knives on a knife barker, couch roll, press rolls, drying cylinder, calenders, slitters, etc.—J.F.O.

The Progress of the Economics of Power and Heat During the Year 1934. Konrad Weiss. Zellstoff Papier 15, No. 3: 99-101; No. 4: 157-62 (March, April, 1935).—Improvements made which were necessary for the operation of high pressure boilers were described, new types of boilers, turbines, transformers and other electrical equipment were also described.—J.F.O.

What Shall We Do With the Bark? K. S. Lebaron. Pulp Paper Can. 36: 365-373 (July, 1935).—A general discussion of the problem of bark disposal, more particularly as it occurs in Eastern Canadian pulp and paper mills, describing the nature of the wet refuse, the possibilities of measuring it, and equipment available for pressing, drying and burning the bark.—A.P.-C.

Aluminum Foil for Thermal Insulation. J. F. O. Stratton. Paper Mill 58, No. 13: 20, 22 (March 30, 1935). —A brief outline of the merits of Alfol insulation (a specially embossed aluminum foil), with a description of the manner in which it was applied on high steam pressure piping at the plant of Union Bag and Paper Corp., Glens Falls, N. Y.—A.P.-C.

Protection from Rust in the Pulp Industry. Karl Bittner. Wochbl. Papierfabr. 66, No. 17: 322-23 (April 27, 1935).—A short description of methods for the prevention of rust in the pulp industry, for both alkaline and acid processes.—J.F.O.

Preparation of Feed Water for High Pressure Boilers. J. Lenoch. Wochbl. Papierfabr. 66, No. 24:455-58 (June 15, 1935).—By means of numerous chemical equations, the author shows the action of certain chemicals within the boiler and described the more important and the latest methods of boiler water treatment.—J.F.O.

TAPPI Summer Meeting in Canada

The Technical Association of the Pulp and Paper Industry will hold a joint meeting with the Technical Section of the Canadian Pulp and Paper Association, from August 3-7, 1936. The meeting will begin with a technical conference at the Mount Royal Hotel, Montreal, P. Q. on August 3rd. Following this there will be a cruise down the St. Lawrence and up the Saguenay. Executives of the pulp and paper industry, whether members of the Association or not are invited to attend the meeting and join the cruise. The meeting will be of particular interest to mill executives, engineers, chemists and superintendents.

The meeting is first and foremost a technical conference. On Monday in Montreal the keynote of the technical discussions will be paper machine speeds and the elements which have made high speed possible in the manufacture of newsprint, the same fundamentals applying to a greater or lesser extent for paper manufacturing in general. There will be five speakers who will cover the engineering of high speed paper manufacture, the part which the pulps and their preparation play in paper machine speed, and the performance of Minton vacuum drying. I am sure the Canadians could not have picked a subject of any more general interest than this one on the technology of high speed paper making.

In Quebec on Tuesday, a complete inspection of the mills of the Anglo-Canadian Pulp and Paper Company will be made, with an opportunity to see several of the most recent and outstanding developments in the production of high yield sulphite and of a new type of groundwood of unusual strength-freeness characteristics. From a technical standpoint this mill visit alone is worth the time and expense of the trip.

On Thursday other outstanding modern mills will be visited at the head of the Saguenay River, and particularly one in which Minton vacuum driers have been in operation for several years.

On Friday on the boat, we have arranged a program of six papers which include such subjects as the chemical characteristics of lignin; size, alum and fiber as related to paper making problems; growth conditions and wood structure as related to pulping; what constitutes validity of patents; recent developments in coating; and recent developments in the relation of ink to paper. These papers are being prepared by members who are experts in their field and discussions are being arranged which will be equally good.

The Pulp and Paper Research Institute at Montreal which is one of the outstanding pulp and paper laboratories in the world, will be open for inspection both Friday evening and Saturday morning.

On top of these five outstanding technical features there is, of course, the unusual opportunity of seeing Quebec, Murray Bay—an outstanding summer vacation spot—Tadoussac, and the famous Saguenay, all done by steamship with a good many extra features thrown in at a cost which certainly could not be duplicated in any other way than by a joint meeting of this sort.

Technical Program

MONDAY, AUGUST 3, 9:30 A. M. MOUNT ROYAL HOTEL, MONTREAL

Twenty-four Years of Canadian Newsprint by R. S. Kellogg, News Print Service Bureau; Forecasting Paper Production, by L. T. Stevenson, former president, Mountain Mill Paper Company.

High Speed Paper Machine Operation, by W. T. Bennett, Canadian-International Paper Company.

The Type of Groundwood Needed for High Speed Paper Machine Operation, by L. E. Kendall, Canadian-International Paper Company.

Sulphite Pulp Requirements for High Speed Machines, by R. T. Steedman, Anglo-Canadian Pulp & Paper Company.

The Vacuum Drying of News Print on High Speed Machines, by J. B. Gough and H. S. Hill, Price Bros. Co. Ltd.

FRIDAY, AUGUST 7, 9:30 A. M. S. S. QUEBEC

Nature of Certain Lignin Derivities, by F. E. Brauns, Institute of Paper Chemistry; Relation Between Growth Conditions, Wood Structure and Pulping Qualities, by C. T. Curran, Forest Products Laboratory.

Recent Determinations Relative to the Physical Characteristics of Paper and Ink to Accomplish Particular Results, by C. F. Clarkson, International Printing Ink Corporation.

What Constitutes Validity of Patents, by C. W. Rivise, Patent Attorney, Philadelphia; Recent Developments in the Field of Coated Paper, by O. W. Callighan, Edgar Bros. Co.

A Study of the Effect of Hemicelluloses on the Beating and Strength of Pulps, (tentative) by H. F. Obermanns, Hammermill Paper Company.

A Simplified Method for the Rapid Determination of the Available Chlorine Content of Pulp Bleaching Solutions, by D. T. Jackson and J. L. Parsons, Hammermill Paper Company.

The Lining of Digesters, by C. F. B. Stevens and W. H. Birchard, Fraser Companies, Ltd.

About 300 reservations have been made but there are still a number of excellent staterooms available. Ladies are invited and a special program has been prepared for them. A wonder program of mill visits, sightseeing, entertainment and technical papers has been arranged. The meeting will be one of the best in the history of the Technical Association. Anyone interested in attending will be welcome. Reservations should be made with Leo S. Tobin, Tobin Travel Bureau, 1409 Peel Street, Montreal, P. Q. The fare per person is $54 (2 in a room) and includes stateroom, transportation, meals on board and luncheon in Montreal on Monday, August 3; registration fee, mill visits and transportation from hotel to steamer. All rooms are outside.

To Represent Newark Wire Cloth Co.

Announcement is made by the Newark Wire Cloth Company, Newark, N. J., well-known manufacturers of high grade wire cloth and wire cloth products, that they have appointed Carl J. Eberly as their representative in the Detroit, Michigan, territory. Mr. Eberly's business address is: 2-251 General Motors Building.

Perfection Gummed Papers in West

Perfection gummed papers, well known among Eastern paper merchants, are now being offered to the Middle West through a Chicago office at 538 S. Clark street in charge of Charles L. Streeter, long associated with and well known to Western paper merchants.

IMPORTS OF PAPER AND PAPER STOCK

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

WEEK ENDING JULY 11, 1936

CIGARETTE PAPER

De Manduit Paper Corp., *Pr. Roosevelt,* Havre, 177 cs.; H. H. Strauss, *Champlain,* Havre, 550 cs.; Champagne Paper Corp., *Champlain,* Havre, 657 cs.; Champagne Paper Corp., *Indep. Hall,* St. Nazaire, 124 cs.

WALL PAPER

———, *Pr. Roosevelt,* Havre, 13 bls.; ———, *Queen Mary,* Southampton, 2 cs.; F. A. Binder, *Europa,* Bremen, 6 bls.

NEWSPRINT

Jay Madden Corp., *Pr. Roosevelt,* Hamburg, 94 rolls; Jay Madden Corp., *Manhattan,* Hamburg, 94 rolls; Jay Madden Corp., *Scanpenn,* Kotka, 871 rolls, 70 bls.; Walker Goulard Plehn Co., *Scanpenn,* Kotka, 71 bls.; Lunham & Reeve, *Scanpenn,* Kotka, 224 rolls; Perkins Goodwin & Co., *Deutschland* Hamburg, 240 rolls; Perkins Goodwin & Co., *Helgoy,* Sundsvall, 2 rolls; National Pulp & Paper Co., Inc., *Helgoy,* Sundsvall, 200 rolls; S. B. Behrens Co., *Helgoy,* Sandsvall, 82 rolls, 40 bls.

PRINTING PAPER

———, *Georgic,* London, 3 rolls; ———, *Westernland,* Antwerp, 13 cs.; L. A. Consmiller, *Europa,* Bremen, 51 cs.; Walker Goulard Plehn Co., *Scanpenn,* Kotka, 84 bls.; F. L. Kramer & Co., *American* Trader, London, 4 cs.; Japan Paper Co., *Manhattan,* Hamburg, 2 cs.; Senefelder Co., Inc., *Deutschland,* Hamburg, 2 cs.; E. Dietzgen & Co., *Deutschland,* Hamburg, 2 cs.

WRAPPING PAPER

Jay Madden Corp., *Pr. Roosevelt,* Hamburg, 424 rolls; ———, *Pr. Roosevelt,* Hamburg, 138 rolls; Steiner Paper Corp., *Deutschland,* Hamburg, 35 cs.; ———, *Deutschland,* Hamburg, 11 cs.; Phoenix Shipping Co., *Deutschland,* Hamburg, 24 pkgs.

PACKING PAPER

Gevaert Co. of America, *Black Heron,* Antwerp, 8 cs.

FILTER PAPER

H. Reeve Angel & Co., Inc., *Georgic,* London, 11 cs.; C. Schleicher & Schull Co., Inc., *Deutschland,* Hamburg, 13 cs., 2 bls.

FILTER COMPOUND

P. H. Petry & Co., *Deutschland,* Hamburg, 100 bls.

SURFACE COATED PAPER

Gevaert Co. of America, *Westernland,* Antwerp, 37 cs.; ———, *Westernland,* Antwerp, 7 cs.; Gevaert Co. of America, *Black Heron,* Antwerp, 15 cs.

METAL COATED PAPER

K. Pauli Co., *Europa,* Bremen, 115 cs.; Hensel Bruckman & Lorbacher, *Europa,* Bremen, 25 cs.; ———, *Deutschland,* Hamburg, 6 cs.

ALUMINUM PAPER

C. H. Forsman & Co., *Europa,* Bremen, 3 cs.

BASIC PAPER

———, *Westernland,* Antwerp, 9 cs.; Dingelstedt & Co., *Europa,* Bremen, 3 cs.

PHOTO PAPER

Medo Photo-Supply Co., *Queen Mary,* Southampton, 1 cs.; J. J. Gavin, *Queen Mary,* Southampton, 6 cs.

DECALCOMANIA PAPER

B. F. Drakenfeld & Co., *Samaria,* Liverpool, 15 cs. (duplex).

DECALCOMANIAS

Sellers Transportation Co., *Europa,* Bremen, 6 cs.; Sellers Transportation Co., *Deutschland,* Hamburg, 14 cs.

TISSUE PAPER

B. F. Drakenfeld & Co., *Samaria,* Liverpool, 4 cs.; W. J. Byrnes, *Queen Mary,* Southampton, 1 cs.; Atlantic F'd'g Co., *Deutschland,* Hamburg, 8 cs.; American Express Co., *Deutschland,* Hamburg, 8 cs.

PASTE BOARDS

———, *Deutschland,* Hamburg, 155 bls.

PAPER TUBES

———, *Europa,* Bremen, 9 ctn.; ———, *Deutschland,* Hamburg, 72 cs.

STRAW BOARD

———, *Veendam,* Rotterdam, 482 bdls.

MISCELLANEOUS PAPER

Japan Paper Co., *Anna Maersk,* Kobe, 18 cs.; Bingham & Co., *Bordeaux Maru,* Kobe, 2 cs.; J. W. Masters & Co., *Champlain,* Havre, 7 cs.; Coty Processing Co., *Champlain,* Havre, 6 cs.; E. Fougera & Co., *Champlain,* Havre, 67 cs.; Rohner Gehrig & Co., *Champlain,* Havre, 3 cs.; ———, *Deutschland,* Hamburg, 474 rolls; Keuffel & Esser Co., *Deutschland,* Hamburg, 132 cs., 98 rolls; Dingelstedt & Co., *Deutschland,* Hamburg, 13 cs.; The Borregaard Co., Inc., *Drottningholm,* Gothenburg, 869 rolls, 35 pkgs.; Guaranty Trust Co., *Drottningholm,* Gothenburg, 2984 rolls; Lunham & Reeve, *Drottningholm,* Gothenburg, 17 bls.

RAGS, BAGGINGS, ETC.

J. Cohen & Son Co., Inc., *Samaria,* Liverpool, 30 bls. new cuttings; Philadelphia National Bank, *Pr. Roosevelt,* Hamburg, 56 bls. rags; ———, *Pr. Roosevelt,* Hamburg, 53 bls. rags; ———, *Caledonia,* Glasgow, 59 bls. bagging; Chase National Bank, *Caledonia,* Glasgow, 72 bls. bagging; S. Shapiro & Sons, *Pilsudski,* Gdynia, 150 bls. rags; ———, *Liberty,* Dundee, 36 bls. paper stock; Katzenstein & Keene, Inc., *Motomar,* Barcelona, 488 bls. rags; E. J. Keller Co., Inc., *Westernland,* ———, 214 bls. bagging; ———, *Westernland,* Antwerp, 128 bls. bagbing; W. Steck & Co., *Veendam, Rotterdam,* 56 bls. bagging; ———, *Veendam,* Rotterdam, 99 bls. rags; Globe Sanitary Products Corp., *Anna Maersk,* Kobe, 100 bls. rags; Darmstadt Scott & Courtney, *Anna Maersk,* Kobe, 400 bls. bagging; ———, *Anna Maersk,* Kobe, 215 lbs. rags; ———, *Bordeaux Maru,* Kobe, 565 bls. cotton waste; S. Shapiro & Sons, *Bordeaux Maru,* Kobe, 200 bls. cotton waste, O' Brien

Padawer, Inc., *Bordeaux Maru,* Kobe, 183 bls. cotton waste; Chase National Bank, *Bordeaux Maru,* Kobe, 120 bls. rags; Royal Manfg. Co., *Bordeaux Maru,* Kobe, 50 bls. cotton waste; Great Eastern Packing & Paperstock Corp., *Black Heron,* Rotterdam, 57 bls. bagging; Philadelphia National Bank, *Black Heron,* Rotterdam, 131 bls. rags; Globe Mill Supply Co., *Black Heron,* Rotterdam, 152 bls. rags; D. Galloway, *Black Heron,* Antwerp, 26 bls. cotton waste; W. Steck & Co., *Exochorda,* Alexandria, 105 bls. rags, 217 bls bagging; ———, *Exchorda,* Alexandria, 81 bls. rags; Banco Coml. Italiane Trust Co., *Exchorda,* Alexandria, 43 bls. bagging; Castle & Overton, Inc., *Exochorda,* Alexandria, 40 bls. rags; E. J. Keller Co., Inc., *Exchorda,* ———, 286 bls. rags; Castle & Overton, Inc., *Uruguayo,* Buenos Ayres, 18 bls. old canvas, 32 bls. bagging; Castle & Overton, Inc., *Quaker City,* Manchester, 33 bls. new cuttings; ———, *Quaker City,* Dublin, 54 bls. bagging; ———, *Quaker City,* Liverpool, 111 bls. bagging; Chase National Bank, *Deutschland,* Hamburg, 48 bls. rags, 43 bls. paper stock; E. J. Keller Co., Inc., *Indep. Hall,* ———, 63 bls. rags.

BONE GLUE

——, *Vulcania,* Trieste, 1100 bags; ———, *Deutschland,* Hamburg, 415 bags.

OLD ROPE

W. Steck & Co., *Veendam,* Rotterdam, 195 coils; Manufacturers Trust Co., *American Trader,* London, 68 coils.

CASEIN

———, *Southern Prince,* Buenos Ayres, 34 bags.

WOOD PULP

E. J. Keller Co., Inc., *Ida,* ———, 638 bls. wood pulp; ———, *Pr. Roosevelt,* Hamburg, 99 bls. wood pulp; Lagerloef Trading Co. *Scanpenn,* Wiborg, 5720 bls. sulphite 1166 tons; ———, *Manhattan,* Hamburg, 639 bls. wood pulp 50 tons; ———, *Vulcania,* Trieste, 1274 bls. wood pulp; Castle & Overton, Inc., *Deutschland,* Hamburg, 410 bls. wood pulp 82 tons; F. D. Maxwell Corp., *Deutschland,* Hamburg, 30 rolls wood pulp; D. M. Hicks, Inc., *Drottningholm,* Gothenburg, 318 bls. sulphite; Lagerloef Trading Co., *Malaren,* Kemi, 2506 bls. sulphate; Bulkley Dunton & Co., *Helgoy,* ———, 10100 bls. wood pulp; Mead Sales Co., Inc., *Helgoy,* Sundsvall, 210 bls. chemical pulp 42 tons; Mead Sales Co. Inc., *Helgoy,* Sundsvall, 210 bls. sulphite 42 tons Johaneson Wales & Sparre, Inc., *Helgoy,* Sundsvall, 1275 bls. sulphite 250 tons; Bank of Manhattan Co., *Helgoy,* Hernosand, 2873 bls. sulphite 459 tons; ———, *Helgoy,* Hernosand, 3450 bls. sulphite 575 tons.

WOOD PULP WARE

Almo Trading & Importing Co., *Manhattan,* Hamburg, 380 cartons.

WOOD PULP BOARDS

Jay Madden Corp., *Scanpenn,* Wiborg, 142 bls., 20 tons; Jay Madden Corp., *Scanpenn,* Kotka, 87 bls., 10 tons; Jay Madden Corp., *Scanpenn,* Kotka, 27 rolls, 10 tons; Fibre Case & Novelty Co., *Drottingholm,* Gothenburg, 24 bls.; ———, *Manhattan,* Hamburg, 62 cases.

WOOD PULP PASTE BOARDS

———, *Manhattan,* Hamburg, 80 cases.

WOOD PULP SHEETS

———, *Deutschland,* Hamburg, 49 bls.

NEWARK IMPORTS

WEEK ENDING JULY 11, 1936

H. G. Craig Co., *Donaco,* Donnacona, 315 rolls; H. G. Craig Co., *Donnacona I,* Montreal, 572 rolls; H. G. Craig Co., *Newscarrier,* Donnacona, 347 rolls.

ALBANY IMPORTS

WEEK ENDING JULY 11, 1936

International Paper Co., *Sheafspear,* Newcastle, N. B., 2000 cords pulpwood; Perkins Goodwin & Co., *Helgoy,* Munksund, 6096 bls. kraft sulphate 1016 tons; ———, *Helgoy,* Hernosand, 900 bls. sulphate 150 tons.

PORTLAND IMPORTS

WEEK ENDING JULY 11, 1936

Bulkley Dunton & Co., *Helgoy,* ———, 250 bls. sulphite 50 tons; Gottesman & Co., Inc., *Helgoy,* Hernosand, 9600 bls. sulphate 1600 tons; ———, *Helgoy,* Stugsund, 1500 bls. sulphate 300 tons; Johaneson Wales & Sparre, Inc., *Helgoy,* Sundsvall, 300 bls. sulphate 50 tons; J. Andersen & Co., *Helgoy,* Sundsvall, 10800 bls. sulphite 1800 tons; J. Andersen & Co., *Helgoy,* Munksund, 3000 bls. kraft sulphate 500 tons; Gottesman & Co., Inc., *Talisman,* Sweden, 9300 bls. wood pulp.

BOSTON IMPORTS

WEEK ENDING JULY 11, 1936

G. F. Malcolm, Inc., *Samaria,* Liverpool, 6 cs. tissue paper; Chase National Bank, *Anna Maersk,* Kobe, 224 bls. rags; ———, *Black Heron,* Antwerp, 43 bls. rags; E. J. Keller Co., Inc., *Exochorda,* ———, 136 bls. rags; ———, *Vulcania,* Trieste, 200 bags hide glue.

PHILADELPHIA IMPORTS

WEEK ENDING JULY 11, 1936

———, *Ida,* Trieste, 162 bls. wood pulp; ———, *Liberty,* Dundee, 16 bls. paper stock, E. J. Keller Co., Inc., *Narutu Maru,* ———, 100 bls. rags; ———, *Narutu Maru,* Kobe, 70 bls. rags; Philadelphia National Bank, *Bordeaux Maru,* Kobe, 70 bls. rags; Chase National Bank, *Bordeaux Maru,* Kobe, 334 bls. rags; Corn Exchange Bank Trust Co., *Bordeaux Maru,* Kobe, 70 bls. rags; Jay Madden Corp., *Scanpenn,* Wiborg, 5 bls. wood pulp boards; Jay Madden Corp., *Scanpenn,* Kotka, 166 bls. wood pulp boards 26 tons; Jay Madden Corp., *Scanpenn,* Kotka, 192 rolls newsprint; H. Reeve Angel & Co., Inc., *Scanpenn,* Kotka, 72 rolls newsprint; J. W. Hampton, Jr., Co., Inc., *Scanpenn,* Kotka, 380 rolls newsprint; Lagerloef Trading Co., *Scanpenn,* Kotka, 931 rolls wood pulp boards 105 tons; Castle & Overton, Inc., *Uruguayo,* Buenos Ayres, 143 bls. old cottons; Castle & Overton, Inc., *Uruguayo,* Buenos Ayres 30 bls. old garments, 38 bls. new cuttings; Castle & Overton, Inc., *Indep. Hall,* Bordeaux, 213 bls. rags; E. J. Keller Co. Inc., *Indep. Hall,* ———, 167 bls. rags; American & British Chemical Supplies, *Indep. Hall,* St. Nazaire, 333 bags casein; ———, *Quaker City,* Liverpool, 118 bls. bagging; Bulkley Dunton & Co., *Ditmar Koel,* ———, 1000 bls. wood pulp.

WILMINGTON IMPORTS

WEEK ENDING JULY 11, 1936

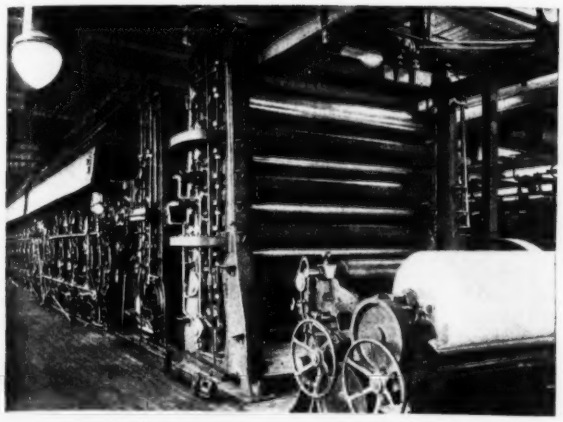
Lagerloef Trading Co., *Scanpenn,* Wiborg, 4622 bls. sulphite 924 tons.

BALTIMORE IMPORTS

WEEK ENDING JULY 11, 1936

Frazar & Co., *Anna Maersk,* Yokohama, 142 bls. rags; Frazer & Co., *Anna Maersk,* Kobe, 120 bls. rags; ———, *Black Heron,* Rotterdam, 87 bls. rags; Castle & Overton, Inc., *Black Heron,* Rotterdam, 890 bls. wood pulp 161 tons; Congoleum Nairn Co., *Black Heron,* Antwerp, 185 bls. rags; Congoleum Nairn Co., *Indep. Hall,* Bordeaux,

(Continued on page 38)



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MODEL 28

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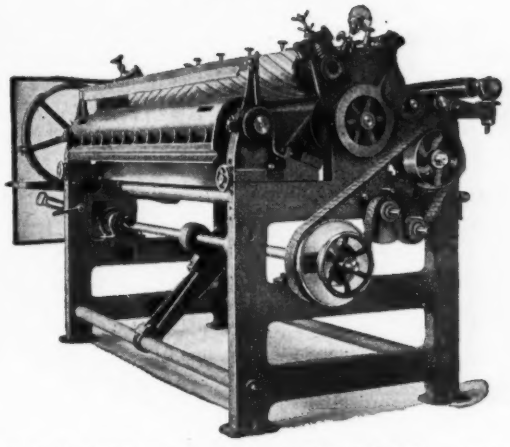

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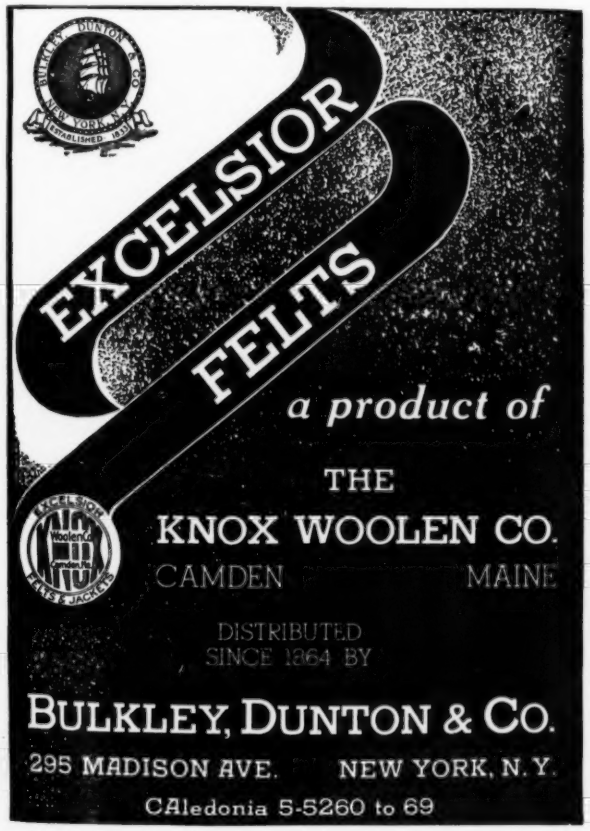

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New York Market Review

Office of the PAPER TRADE JOURNAL,
Wednesday, July 15, 1936.

Business in the local paper market is holding up fairly well, despite the torrid weather. Demand for the various grades is still running ahead of last year's record and the outlook for the balance of the year is promising. Prices are holding to formerly quoted levels, in most instances.

The newsprint paper market is exhibiting a stronger undertone. Production in the United States, Canada, Newfoundland and Mexico during the month of June amounted to 377,861 tons, compared with 338,272 tons in June, 1935, according to the News Print Service Bureau. In the first six months of the year the total North American output increased 183,481 tons.

Considering the time of year the position of the fine paper market is fairly satisfactory. Demand for book, cover, bond and ledger papers is moderately active. Prices remain unchanged. Tissues are moving in good volume. The coarse paper market is displaying strength. Summer specialties are in excellent request.

Mechanical Pulp

The ground wood pulp market is practically unchanged. While manufacturing operations in the United States and Canada have fallen off slightly the prevailing production is sufficient to take care of current requirements. Stocks at the pulp mills are not excessive. Prices are generally holding to schedule.

Chemical Pulp

Conditions in the chemical pulp market are satisfactory and sentiment in the industry is quite optimistic. Demand for both domestic and imported grades is well sustained, despite the holidays. Bleached sulphite and kraft pulps continue very firm, with offerings decidedly limited. Other grades of chemical pulp remain unchanged.

Old Rope and Bagging

The old rope market is firmer, due to scarcity of offerings. More paper mill interest is being displayed in domestic and foreign old manila rope. Mixed strings are fairly active. The bagging market is rather quiet. Both scrap and gunny bagging are moving slowly. Roofing bagging is seasonally dull, with no radical price changes reported.

Rags

Trading in the domestic rag market is light at present. Demand for new and old cotton rags is irregular, with the exception of a few grades, including No. 1 white shirt cuttings, which continue steady. Roofing grades are in restricted request. The imported rag market is not arousing much interest at present and prices are nominal.

Waste Paper

Some improvement is noticed in the paper stock market now that the board mills are beginning to show more interest in the lower grades. Quotations on strictly folded news and No. 1 mixed paper are steady and unchanged. The higher grades of waste paper are steady, including hard white envelopes and hard and soft white shavings. Book stock is steady.

Twine

Most of the business transacted in the local twine market during the past week was along routine lines. Demand for the various varieties of twine is about normal for the season and more lively trading is generally anticipated in the near future. Despite the usual keen competition prices are generally well sustained.

IMPORTS OF PAPER AND PAPER STOCK

(Continued from page 36)

316 bls. rags; Congoleum Nairn Co., *Indep. Hall* St. Nazaire, 35 bls. rags; Congoleum Nairn Co., *Indep. Hall,* Havre, 142 bls. rags; ———, *Indep. Hall,* Havre, 215 bags casein; ———, *Quaker City,* Manchester, 11 bls. rags; Bulkley Dunton & Co., *Heddernheim,* ———, 2375 bls. wood pulp; Bulkley Dunton & Co., *Maasdam,* ———, 230 bls. wood pulp.

NORFOLK IMPORTS

WEEK ENDING JULY 11, 1936

Paxton Co., Inc., *Black Heron,* Antwerp, 8 bls. rags.

NEWPORT NEWS IMPORTS

WEEK ENDING JULY 11, 1936

W. Schade & Co., *Quaker City,* Liverpool, 8 cs. tissue paper.

LOS ANGELES IMPORTS

WEEK ENDING JULY 11, 1936

California Mill Supply Co., *Anna Maersk,* Yokohama, 200 bls. rags; ———, *Anna Maersk,* Kobe, 120 bls. rags.

OAKLAND IMPORTS

WEEK ENDING JULY 11, 1936

E. J. Keller Co., Inc., *Wyoming,* ———, 405 bls. paper stock; E. J. Keller Co., Inc., *Dinteldyk,* ———, 778 bls. paper stock.

MONTREAL IMPORTS

WEEK ENDING JULY 11, 1936

Gottesman & Co., Inc., *Stansby,* Sweden, 3300 bls. wood pulp.

Beloit Furnishes Weyerhaeuser Equipment

In the article describing the new sulphite pulp mill of the Pulp Division Weyerhaeuser Timber Company, which has just gone into operation at Everett, Wash., it was neglected to mention among the equipment that the new pulp drying machine is equipped with Beloit suction couch and Beloit suction first press rolls, and also a Beloit special cutter and sheet stacker which was designed specially for this machine. The Beloit Iron Works, Beloit, Wis., furnished this equipment through Rice, Barton & Fales.

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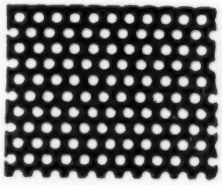

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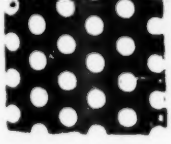

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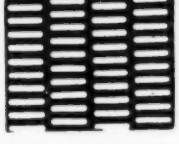

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Branch: 246 Stuart Street BOSTON, MASS.

Miscellaneous Markets

Office of the PAPER TRADE JOURNAL.
Wednesday, July 15, 1936.

Steadiness prevails in the blanc fixe market. Prices are holding to formerly quoted levels in most instances. The pulp is quoted at $42.50 to $45 per ton, in bulk; while the powder is selling at 3½ to 3¾ cents per pound, in barrels, at works.

BLEACHING POWDER.—The bleaching powder market is only moderately active at present. Shipments against contract are moving slowly. The price situation continues unchanged. Bleaching powder is quoted at $2 to $2.25 per 100 pounds, in drums, at works.

CASEIN.—The casein market is stronger. Domestic standard ground is quoted at 15½ and finely ground at 16 cents; while French and Argentine standard ground are selling at 15¼ and finely ground at 16 cents per pound, all in bags, car lot quantities.

CAUSTIC SODA.—Business in the caustic soda market is irregular. Demand from the paper mills is restricted at present. Solid caustic soda is quoted at $2.55 to $2.60; the flake and ground are selling at $2.95 to $3 per 100 pounds, in drums, at works.

CHINA CLAY.—The china clay market is in a strong position for the time of year. Contract shipments are moving freely. Imported china clay is quoted at $12.50 to $21 per ton, ship side; domestic paper making clay is selling at $6.50 to $12 per ton, at mine.

CHLORINE.—The chlorine market is displaying strength. Demand from the paper mills is brisk for the season. The contract movement is normal. Prices are holding to schedule. Chlorine is quoted at $2.15 to $2.55 per 100 pounds, in tank cars, at works.

ROSIN.—The rosin market is firmer. Paper making gum rosin is now quoted at $5.05 and wood rosin at $4.85 per 280 pounds, gross weight, in barrels, at Savannah. Seventy per cent rosin size is selling at $2.76½ per 100 pounds, in tank cars, at works.

SALT CAKE.—Business in the salt cake market is holding up well. Prices are steady and unchanged. Salt cake is quoted at $12 to $13; chrome salt cake at $11 to $12 per ton, at works. Imported salt cake is selling at $12 to $13 per ton, ship side.

SODA ASH.—The soda ash market is quiet, affected by the midsummer holidays. The statistical position of the industry is strong. Quotations on soda ash, in car lots, at works, per 100 pounds, are as follows; in bulk, $1.05; in bags, $1.20; and in barrels, $1.50.

STARCH.—Conditions in the starch market are improving although most of the prevailing demand is routine. Prices are higher. Special paper making starch is quoted at $3.35 per 100 pounds, in bags; and at $3.62 per 100 pounds, in barrels, at works.

SULPHATE OF ALUMINA.—Trading in the sulphate of alumina market is light. The contract movement is seasonal. Prices are holding to schedule. Commercial grades are quoted at $1.35 to $1.60; and iron free at $2 to $2.25 per 100 pounds, in bags, at works.

SULPHUR.—The sulphur market continues steady. Yearly contracts are quoted at $18 per ton, in bulk, on orders of 1,000 tons, or over and $20 on smaller quantities. On spot and nearby car loads the quotation is $21 per ton. All quotations are in car lots, at works.

TALC.—No radical changes transpired in the talc market. Demand from the paper mills is irregular, due to the holiday lull. Domestic talc is still quoted at $16 to $18 per ton, at eastern mines; while imported talc is selling at $23 to $30 per ton, on dock.

Market Quotations

Paper

Rag Content Bond & Ledgers—

Delivered Zone 1	Bonds	Ledgers
100% Rag Ext. No. 1	.36	.37
100% Rag	.28	.29
75% Rag	.21	.22
65% Rag	.18	.19
50% Rag	.15	.16
25% Rag	.12½	.13½

Sulphite Bond & Ledgers—

Delivered Zone 1	Bonds	Ledgers
No. 1 Sulphite	7.50 @ 8.50	
No. 2 Sulphite	6.50 @ 7.50	
No. 3 Sulphite	6.00	7.00
No. 4 Sulphite	5.50	6.50

Book, B Grade, Cased		
S. & S. C.	5.85	@ 6.60
S. & S. C. Litho.	6.10	@ 6.85
M. F.	5.60	@ 6.35
No. 4 Grade		
Coated and Enamel	6.80	@ 7.65
Coated Litho	6.80	@ 7.65
Tissues—Per Ream—		
White No. 1	.82½	@ —
White No. 1 M. G.	.77½	@ —
White No. 1¼	.62½	@ —
White No. 2	.60	@ —
Anti-Tarnish M. G.	.67½	@ —
Colored	.80	@ —
Kraft	.67½	@ —
Manila	.60	@ —
Unbleached Toilet	2.60	@ 3.30
Bleached Toilet	3.94	@ 5.26
Paper Towels—		
Unbleached	2.10	@ 3.35
Bleached	3.30	@ 3.70
Manila—		
No. 1 Jute	9.00	@ 9.25
No. 2 Jute	7.75	@ 8.50
No. 1 Wood	4.00	@ 5.25
No. 2 Wood	3.50	@ 4.00
Fibre Papers—		
No. 1 Fibre	4.25	@ 5.50
No. 2 Fibre	4.00	@ 4.75

(Delivered New York)

News, per ton—		
Roll, contract	41.00	@ —
Sheets	46.00	@ —
Kraft—		
No. 1 Northern	4.25	@ 4.75
Standard	4.12½	@ —
Southern	4.00	@ —
Boards—per ton—		
News	32.50	@35.00
Chip	32.50	@35.00
Sgl. Mla. Ll. Chip	45.00	@47.50
Jute Lined Chip	42.50	@45.00
Kraft Liners	60.00	@62.50
White Pat. Coated	55.00	@57.50
Binders Boards	67.00	@75.00

Mechanical Pulp

(On Dock, Atlantic Ports)

No. 1 Imported—		
Moist	24.00	@25.00
Dry	24.00	@25.00
(Delivered)		
No. 1 Domestic and Canadian	27.00	@28.00

Chemical Pulp

(On Dock, Atlantic, Gulf and West Coast Ports)

Bleached Sulphite (Domestic and Foreign)—		
Division 1	2.70	@ 3.10
Division 2	2.65	@ 2.75
Division 3	2.60	@ 2.70
Prime Qualities—		
Class 1. All Prime Easy Bleaching	2.05	@ 2.10
Other Than Easy Bleaching—		
Class 2. Higher than Standard	2.00	@ 2.05
Class 3, Standard	1.95	@ 2.00
Class 4. Lower than Standard	1.90	@ 1.95
(On Dock, Atlantic Ports)		
Kraft Bleached	3.00	@ 3.25
Kraft No. 1	1.85	@ 2.00
Kraft No. 2	1.70	@ 1.80
(F. o. b. Pulp Mill)		
Kraft Domestic	1.80	@ 2.00
(Delivered)		
Soda Bleached	2.60	@ —

* Add 60 Cents per short ton, dock charges, for Albany; $2.00 for Lake Ports East and $3.00 for Lake Ports West of Mackinac Straits.

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—		
New White, No. 1	7.50	@ 7.75
Silesias No. 1	5.50	@ 5.75
New Unbleached	8.25	@ 8.50
New Soft Blacks	3.75	@ 4.00
Blue Overall	6.50	@ 6.75
Fancy	3.00	@ 3.25
Washables	2.25	@ 2.50
Mixed Khaki Cuttings	3.50	@ 3.75
O. D. Khaki Cuttings	4.25	@ 4.50
Men's Corduroy	2.00	@ 2.25
New Mixed Blacks	2.75	@ 3.00

Old Rags

White, No. 1—		
Repacked	3.25	@ 3.50
Miscellaneous	2.75	@ 3.00
White, No. 2—		
Repacked	2.25	@ 2.50
Miscellaneous	1.75	@ 2.00
Thirds and Blues		
Repacked	2.00	@ 2.25
Miscellaneous	1.90	@ 2.00
Roofing Rags—		
No. 1	1.80	@ 1.85
No. 2	1.35	@ 1.40
No. 3 (bagging)	1.15	@ 1.25
No. 4	1.20	@ 1.30
No. 5A	.90	@ 1.00

Foreign Rags

New Rags

New Dark Cuttings	2.25	@ 2.50
New Mixed Cuttings	2.00	@ 2.25
New Light Silesias	4.50	@ 5.00
Light Flannelettes	4.50	@ 5.00
New White Cuttings	7.00	@ 7.50
New Light Oxfords	4.00	@ 4.50
New Light Prints	3.00	@ 3.25

Old Rags

No. 1 White Linens	7.50	@ 8.00
No. 2 White Linens	6.50	@ 7.00
No. 3 White Linens	4.50	@ 5.00
No. 4 White Linens	2.25	@ 2.50
No. 1 White Cotton	4.25	@ 4.75
No. 2 White Cotton	3.25	@ 3.75
No. 3 White Cotton	2.50	@ 2.75
No. 4 White Cotton	1.90	@ 2.15
Extra Light Prints	2.00	@ 2.25
Ord. Light Prints	1.75	@ 1.85
Med. Light Prints	1.55	@ 1.65
Dutch Blue Cottons	2.25	@ 2.50
French Blue Linens	3.50	@ 4.00
German Blue Linens	2.50	@ 2.75
German Blue Cottons	2.00	@ 2.25
Checks and Blues	2.00	@ 2.25
Linsey Garments	2.15	@ 2.25
Dark Cottons	1.90	@ 2.10
Old Shopperies	1.75	@ 2.00
New Shopperies	1.75	@ 2.00
French Blues	2.25	@ 2.50

Old Rope and Bagging

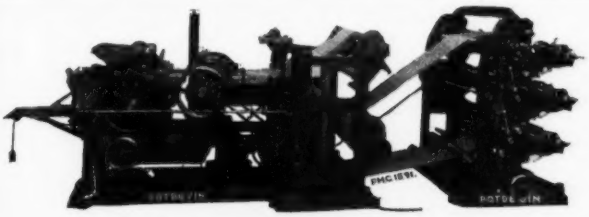
(Prices to Mill f. o. b. N. Y.)

Gunny No. 1—		
Foreign	2.10	@ 2.15
Domestic	1.75	@ 1.85
Wool Tares, light	1.50	@ 1.75
Wool Tares, heavy	1.85	@ 2.05
Bright Bagging	1.70	@ 1.75
Manila Rope—		
Foreign	2.40	@ 2.60
Domestic	2.25	@ 2.50
Mixed Strings	1.10	@ 1.15
New Burlap Cut	2.75	@ 3.00
Hessian Jute Threads—		
Foreign	3.00	@ 3.25
Domestic	2.80	@ 3.00

Old Waste Papers

(F. o. b. New York)

Shavings—		
White Envelope Cuttings	2.55	@ 2.65
Ordinary Hard White No. 1	2.25	@ 2.35
Hard White No. 2	2.10	@ 2.20
Soft White No. 1	1.95	@ 2.05
Flat Stock—		
Stitchless	.65	@ .75
Over issue Mag	.65	@ .75
Solid Flat Book	.55	@ .60
Crumpled No. 1	.35	@ .40
Solid Book Ledger	1.50	@ 1.65
Ledger Stock	.85	@ .90
New B. B. Chips	.30	@ .35
Manilas—		
New Env. Cut	1.75	@ 1.85
New Cuttings	1.35	@ 1.45
Bogus Wrapper	.40	@ .50
Old Kraft Machine—		
Compressed bales	1.05	@ 1.30
News—		
No. 1 White News	1.15	@ 1.25
Strictly Overissue	.50	@ .60
Strictly Folded	.30	@ .35
No. 1 Mixed Paper	.30	@ .32½



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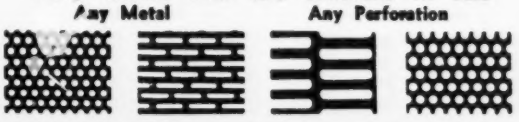
Any Metal Any Perforation

The Harrington & King PERFORATING CO.
5652 FILLMORE ST., CHICAGO, ILL. 114 LIBERTY ST., NEW YORK, N.Y.

Twines

(F. o. b. Mill)

(Soft Fibre)

Coarse Polished—			
India	.13½	@	.15¾
Belg. White Hemp	.14½	@	.17¾
India Compress	.13¾	@	.14¼
Fine Polished—			
Fine India	.21½	@	.23½
Special	.19½	@	.21½
Unpolished—			
Box	.12	@	.12½
Paper Makers	.09	@	.13½
Tube Rope	.10	@	.15½
Wall Paper	.11	@	.14½
Wrapping	.15½	@	.21
Special	.15	@	.15½
Soft Fiber Rope	.12½	@	.12¾

(Hard Fibre)

Bond	.09½	@	.18
Anchor	.09	@	.10½
Manila	.21	@	.28

CHICAGO

Paper

(F. o. b. Mill)

Rag Bond	.12	@	.40
Water Marked Sulphite Bond	.06¾	@	.11
Sulphite Bond	.05½	@	.07¼
Superfine Writing	.18	@	.24
No. 1 M. F. Book	.06½	@	.07¾
No. 2 M. F. Book	.05¼	@	.06¾
No. 1 S.&S.C. Book	.06¾	@	.07¾
No. 2 S.&S.C. Book	.05¾	@	.06½
Coated Book	.07	@	.12
Coated Label	.07	@	.08½
No. 1 Manila	.04¼	@	.05¾
No. 1 Fibre	.04¾	@	.05¼
No. 2 Manila	.04¼	@	.04¾
Butcher's Manila	.03¼	@	.03¾
No. 1 Kraft	4.75	@	5.00
Southern Kraft	3.88	@	4.25
No. 2 Kraft	3.88	@	4.25
Wood Tag Boards	.04¼	@	.06¼
Sulphite Screenings	.03	@	.03¼
Manila Tissue	.05¾	@	.07
White Tissue	.07	@	.09

(Delivered Central Territory)

News, per ton—			
Rolls, contract	42.00	@	—
Sheets, open	47.00	@	—
Boards, per ton—			
Plain Chip	46.50	@	—
Solid News	50.00	@	—
Manila Lined Chip	55.00	@	—
Patent Coated	65.00	@	—
Container Lined—			
85 Test, per 1000 sq. ft.			1.70
100 Test, per 1000 sq. ft.			1.85

Old Papers

(F. o. b. Chicago)

Shavings—			
No. 1 White Envelope Cuttings	1.70	@	2.00
No. 1 Hard White	1.40	@	1.65
No. 1 Soft White	1.25	@	1.50
Ledger & Writings	.60	@	.70
Solid Books	.50	@	.60
Blanks	1.00	@	1.05
Krafts	.80	@	.90
New Kraft Cuts	1.20	@	1.30
Manila Env. Cuts	1.25	@	1.30
Ex. No. 1 Manila	.90	@	1.00
Print Manila	.40	@	.50
Overissue News	.40	@	.45
Old Newspapers—			
No. 1 Folded News	.42½	@	.45
No. 1 Mixed Paper	.25	@	.30
Roofing Stocks—			
No. 1	30.00	@	—
No. 2	28.00	@	—

PHILADELPHIA

Paper

Rag Content Bond & Ledgers— Delivered Zone 1	Bonds	Ledgers
100% Rag Ext. No. 1	.36	.37
100% Rag	.28	.29
75% Rag	.21	.22
65% Rag	.18	.19
50% Rag	.15	.16
25% Rag	.12½	.13½

Sulphite Bond & Ledgers— Delivered Zone 1	Bonds	Ledgers
No. 1 Sulphite	7.75	8.75
No. 2 Sulphite	6.75	7.75
No. 3 Sulphite	6.00	7.00
No. 4 Sulphite	5.50	6.50

F.o.b. Mill

Book, M. F.	5.00	@	—
Book, S. S. & C.	5.25	@	—
Book, Coated	6.15	@	—
Coated Lithograph	6.15	@	—
No. 1 Jute Manila	10.50	@	—
Manila Sul., No. 1	6.75	@	—
Manila No. 2	4.25	@	—
No. 1 Kraft	6.00	@	—
Southern Kraft	5.00	@	—
News Print Rolls	40.00	@	—
Straw Board	40.00	@	45.00
News Board	40.00	@	—
Chip Board	37.50	@	—
Wood Pulp Board	70.00	@	85.00
Binder Boards—			
No. 1, per ton	75.00	@	80.00
No. 2, per ton	70.00	@	75.00
Carload lots	65.00	@	70.00
Tarred Felts—			
Regular	52.25	@	54.25
Slaters (per roll)	.84	@	.94

Domestic Rags (New)

(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1.	.08	@	.08½
New White, No. 2.	.04½	@	.05
Light Silesias	.05½	@	—
Silesias, No. 1	.04½	@	.05
Black Silesias, soft.	.03½	@	.04
New Unbleached	.06	@	—
Washable, No. 1	.02	@	.02½
Blue Overall	.06	@	.06½
Cottons—According to grades—			
Washable, No. 2	.02½	@	.04½
New Blue	.01¾	@	.02¾
Fancy	.03	@	—
New Black Soft	.04	@	.04½
New Light Seconds	.03½	@	.04
New Dark Seconds	1.75	@	2.00
Khaki Cuttings—			
No. 1 O. D.	.04	@	.04½
No. 2 Mixed	.03½	@	.04
Corduroy	.02	@	.02¼
New Canvas	.04	@	.04½
New Black Mixed.	.02	@	.02¼

Domestic Rags (Old)

White No. 1—			
Repacked	4.00	@	4.50
Miscellaneous	3.00	@	3.50
Thirds and Blues—			
Miscellaneous	2.00	@	—
Repacked	2.25	@	2.50
Black Stockings (Export)	4.50	@	5.00
Roofing Stock—			
Foreign No. 1	2.20	@	2.25
Domestic No. 1	1.80	@	1.85
Domestic No. 2	1.60	@	1.65
Roofing bagging	1.30	@	—

Bagging

(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	2.00	@	—
Domestic	2.25	@	—
Manila Rope	2.25	@	2.50
Sisal Rope	2.00	@	2.25
Mixed Rope	1.00	@	1.10
Scrap Burlaps—			
No. 1	2.00	@	2.50
No. 2	.90	@	1.00
Wool Tares, heavy	3.00	@	3.25
Mixed Strings	1.00	@	1.10
No. 1 New Light Burlap	3.00	@	3.50
New Burlap Cuttings	2.50	@	2.75

Old Papers

(F. o. b. Phila.)

Shavings—			
No. 1 Hard White.	2.30	@	2.40
No. 2 Hard White.	2.10	@	2.20
No. 1 Soft White	1.80	@	1.85
No. 2 Soft White	1.40	@	1.45
No. 1 Mixed	—	@	.85
Solid Ledger Stock	1.50	@	1.60
Ledger Stock, white.	1.15	@	1.20
Ledger Stock, colored	.85	@	.90
No. 1 Books, heavy	.65	@	.70
Manila Cuttings	1.50	@	1.60
Print Manila	.50	@	.60
Container Manila	.50	@	.60
Kraft Paper	1.10	@	1.20
No. 1 Mixed Paper	.35	@	.40
Straw Board Chip	.40	@	—
Binders Board Chip.	.40	@	—
Corrugated Board	.60	@	.65
Overissue News	.60	@	—
Old Newspapers	.40	@	—

BOSTON

Paper

Rag Content Bond & Ledgers— Delivered Zone 1	Bonds	Ledgers
100% Rag Ext. No. 1	.36	.37
100% Rag	.28	.29
75% Rag	.21	.22
65% Rag	.18	.19
50% Rag	.15	.16
25% Rag	.12½	.13½

Sulphite Bond & Ledgers— Delivered Zone 1	Bonds	Ledgers
No. 1 Sulphite	7.50	8.50
No. 2 Sulphite	6.50	7.50
No. 3 Sulphite	6.00	7.00
No. 4 Sulphite	5.50	6.50

F.o.b. Mill

Book, Super	.06	@	.09
Book, M. F.	.05½	@	.08½
Book, Coated	.08½	@	.18
Coated Litho	.09	@	.12
Jute Manila No. 1	.11	@	.13
Manila, Sul. No. 1	.04¼	@	.06½
Manila, Sul. No. 2	.03¾	@	.04½
No. 1 Kraft	.04¼	@	—
No. 2 Kraft	.04½	@	—

(Delivered New England points)

Southern Kraft	.04	@	—
News Print Rolls	39.50	@	—
Straw Board, rolls	.009	—	@35.00
Filled News Board	40.00	@	45.00
Chip Board	37.50	@	40.00
Single Manila Lined Chip	47.50	@	52.50
Single White, Patent Coated News Board (Bender)	55.00	@	65.00
Wood Pulp Board	70.00	@	75.00
Binder Boards (Standard Grade)	67.00	@	75.00

Old Papers

(F. o. b. Boston)

Shavings—			
No. 1 Hard White.	2.00	@	2.10
No. 1 Soft White	1.75	@	1.85
No. 2 Mixed	.75	@	.80
Solid Ledger Books	1.50	@	1.75
Overissue Ledger Stock	1.15	@	1.30
Mixed Ledgers	.85	@	.90
No. 1 Books, heavy	.60	@	.70
No. 1 Books, light	.50	@	.60
Crumpled Stitchless Book Stock	.50	@	.60
Manila Env. Cuttings	1.50	@	1.60
No. 1 Old Manila	.60	@	.65
White Blank News	1.10	@	1.15
No. 1 Kraft	1.05	@	1.12½
Mixed Papers	.22½	@	.25
Print Manila	.47½	@	.50
Container Manilas	.27½	@	—
Old Newspapers	.25	@	.27½
Overissue News	—	@	.40
Box Board Chips	—	@	.25
Corrugated Boxes	.35	@	.37½
Kraft corrugated boxes	.95	@	1.00
Screening Wrappers	.40	@	.45

Bagging

(F. o. b. Boston)

Manila Rope—			
Foreign	2.35	@	2.45
Domestic	2.25	@	—
Transmission Rope	1.20	@	1.30
Jute Rope	1.90	@	2.10
Jute Carpet Threads	1.00	@	1.10
Gunny No. 1—			
Foreign	1.90	@	2.00
Domestic	1.80	@	1.90
Bleachery Burlap	4.25	@	4.50
Scrap Burlap—			
Foreign	1.90	@	2.00
Domestic	1.60	@	1.75
Scrap Sisal	1.90	@	2.00
Scrap Sisal for Shredding	2.10	@	2.25
Wool Tares, heavy	1.90	@	2.00
New Burlap Cuttings	2.00	@	2.25
Australian Wool Pouches	2.25	@	2.35
Heavy Baling Bagging	1.75	@	2.10
Paper Mill Bagging	1.65	@	1.70
Bagging No. 2	1.10	@	1.25

Domestic Rags (New)

(F. o. b. Boston)

Shirt Cuttings—			
New Light Prints.	.01¾	@	.02
New White No. 1.	.07	@	.07½
New White No. 2.	.04	@	.04¼
Silesias No. 1	.05	@	.05½
New Black Silesias	.03½	@	.04¼
Soft Unbleached	.07¼	@	.07¾
Blue Cheviot	5.50	@	6.00
Fancy	.02½	@	.02¾
Washable	.0165	@	.017
Cottons—According to grades—			
Blue Overalls	5.00	@	5.50
New Black, soft	.04	@	.04¼
Khaki Cuttings	.04	@	.04¼
O. D. Khaki	.03¾	@	.04¼
Corduroy	.01¾	@	.02
New Canvas	—	@	.05
B.V.D. Cuttings	—	@	.06¼

Domestic Rags (Old)

(F. o. b. Boston)

Canvas	.04½	@	—
White No. 1—			
Repacked	—	@	2.75
Miscellaneous	2.50	@	2.75
White No. 2—			
Repacked	1.90	@	2.00
Miscellaneous	2.00	@	2.25
Twos and Blues	1.75	@	2.00
Thirds and Blues—			
Repacked	1.37½	@	1.75
Miscellaneous	1.25	@	1.62½
Black Stockings	3.90	@	4.00
Roofing Stock—			
No. 1	1.35	@	1.45
No. 2	1.25	@	1.30
No. 3	1.10	@	1.15

Foreign Rags

(F. o. b. Boston)

Dark Cottons	1.50	@	1.70
New White Shirt Cuttings	6.50	@	6.75
Dutch Blues	2.25	@	2.50
New Checks & Blues	2.50	@	3.00
Old Fustians	1.75	@	1.90
Old Linsey Garments	1.75	@	2.00
New Silesias	5.00	@	5.75

TORONTO

Paper

(F. o. b. Mill)

Bond—			
No. 1 Sulphite	.11	@	—
No. 2 Sulphite	.08½	@	—
No. 1 Colored	.12	@	—
No. 2 Colored	.09	@	—
Ledgers			
Ledgers, No. 1	.34½	@	—
Ledgers, No. 2	.25½	@	—
Writing	.09	@	.09½
Book—			
No. 1 M. F. (Carloads)	6.50	@	—
No. 2 M. F. (Carloads)	6.00	@	—
No. 3 M. F. (Carloads)	6.00	@	—
No. 1 S. C. (Carloads)	7.00	@	—
No. 2 S. C. (Carloads)	6.50	@	—
No. 3 S. C. (Carloads)	6.50	@	—
No. 1 Coated and Litho	12.00	@	—
No. 2 Coated and Litho	10.50	@	—
No. 3 Coated and Litho	9.50	@	—
Coated tinted	13.00	@	—
Wrapping—delivered—			
Rag Brown	4.75	@	—
White Wrap	3.50	@	—
"B" Manila	4.80	@	—
No. 1 Manila	5.40	@	—
Fiber	5.40	@	—
Kraft, M. F.	5.90	@	—
Kraft, No. 2	5.40	@	—

(F. o. b. Cars Toronto)

News, per ton—			
Rolls (contract)	40.50	@	—
Sheets	45.00	@	—

Pulp

Ground wood	27.00	@	—
Unbleached Sulphite	42.00	@	—
Book (Class 1)	58.00	@	—
Writing (Class 2)	59.00	@	—
Select (Class 3)	60.00	@	—

Old Waste Paper

(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut	2.00	@	2.25
Soft White	1.60	@	1.90
White Blk. News	1.25	@	1.40
Book and Ledger—			
Flat Magazine and Book Stock (old)	.90	@	1.00
Light and Crumpled Book Stock.	.80	@	.90
Ledgers and Writings	1.00	@	1.05
Manilas—			
New Manila Cut	1.25	@	1.40
Printed Manilas	.50	@	—
Kraft	1.00	@	1.60
News and Scrap—			
Strictly Overissue	.55	@	—
Strictly Folded	.50	@	—
No. 1 Mixed Paper	.40	@	—

Domestic Rags

(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	.07½	@	.07¾
Fancy Shirt Cuttings	.02¾	@	.03